March 1954

Management

methods

PRACTICAL SOLUTIONS TO MANAGEMENT'S PROBLEMS

How to make more room without adding space

ROUTE To see pages

To see pages

To see pages

To see pages

Management **methods**

Publisher Jerome W. Harris

President William S. Kline

Editorial Staff

Editor: Jerome W. Harris
Managing Editor: Ira J. Bilowit
Production Mgr.: Henry J. Taggart
Art Director: Laurence Lustig
Editorial Consultant: Leslie M. Slote

Business Staff

General Mgr.: William S. Kline
Advertising Mgr.: Charles L. Dermott
Western Adv. Mgr.: William S. Hutchings
Office Mgr.: Edith Pagnotta

Advertising Offices

New York 17—141 East 44th Street, MU 7-0583
Chicago 11—612 North Michigan Avenue, MOhawk 4-0709
Los Angeles 5—Robert W. Walker Co., 2330 West Third Street, Dunkirk 7-4388
San Francisco 4—Robert W. Walker Co., 57 Post Street, Sutter 1-5568

A publication of MANAGEMENT MAGAZINES, INC.
141 East 44th Street, New York 17, N. Y., MU 7-0583

BPA

Member of Business Publications Audit

SUBSCRIPTIONS: In United States and Possessions, one year $5.00. Canada, one year $6.00. Single copies $.50.

Accepted for mailing under Section 34.64 P.L.&R. at United States Post Office, East Stroudsburg, Pa.

Would you like to order *Management* **METHODS** for others in your company? Use the postpaid reply card in this issue.

Vol. 5 No. 4 1954 march

FEATURES

DEPARTMENTS

Policy re manuscripts *The object of Management METHODS is to offer "practical solutions to management's problems." for that reason we never highlight a problem without offering at least a partial solution or a recommended course of action. Whenever possible, we like to offer the reader something he can do right now to correct a procedure or solve a problem in his business.*

Much of our editorial material comes from business and management specialists as well as from active businessmen at all levels of management.

Most articles employ case histories. An article may be based on a single case history or can be built around a group of related case histories. We like to mention the name of the user company involved in each case history and, when possible, to quote an officer of the company.

We endeavor to return all manuscripts. However, we assume no responsibility for material not specifically requested by us.

$ tax tips $

Which bad debts are legitimate tax deductions

THE AUTHOR: *N. R. Caine, editor of the widely syndicated newspaper column, "Tax Pointers," holds a C.P.A. certificate in New York, New Jersey, Pennsylvania and California. He is a senior partner in the firm bearing his name.*

The income tax deduction for bad debts is one of the most valuable deductions in the income tax law. Its effect is to permit a taxpayer to recoup in part, at least, the economic loss that he has suffered from a bad loan. It does this by permitting him a tax deduction for the amount of his loss. This feature makes an understanding of the various rules, which apply to the "bad debt" deduction, an important part of every taxpayer's knowledge of the income tax law.

If a taxpayer lends money to an individual or other entity, and the loan goes bad due to the bankruptcy or insolvency of the debtor, the taxpayer is entitled to claim a deduction for the resulting loss. As to what form this deduction will take depends upon the nature of the loan. There are two possible situations:

1. *Business bad debts.*—The losses that a taxpayer sustains in connection with his business loans (those which he makes in connection with his trade or business), represent full and unrestricted deductions from his taxable income.
2. *Non-business bad debts.*—The losses that a taxpayer sustains in connection with his non-business loans (not incurred in his trade or business) are also deductible, but only as *restricted* short-term capital losses.

A common example of the first type of bad debt is a worthless trade account receivable; of the second type, a loan to a friend or relative.

The Tax Court recently made certain statements about the deduction for bad debts which are interesting for

their precise analysis of three of the basic aspects of this important deduction. These may be presented in edited form in the following language:

1. The taxpayer who claims a bad debt deduction must show that both he and the person to whom he lent the money intended to create a debt-or-creditor status.
2. He must secondly show that a debt, in fact, existed; that is, he had a legally enforceable obligation against his debtor.
3. He must finally show that the repayment of the obligation was not subject to a contingency; that his debtor was under an unconditional obligation to repay it.

The facts which elicited these comments may be briefly stated in the following terms:

> The taxpayer lent certain sums to his wife in order that she might obtain control of a magazine for which she had worked for many years. It was agreed between them that his wife need not repay the loan to him unless the magazine earned sufficient profits and she received sufficient dividends which she could apply to its repayment.

Contrary to the expectations of both the taxpayer and his wife, the magazine failed to prosper and was subsequently dissolved in 1943. The taxpayer thereupon claimed the loan as a non-business bad debt deduction.

The Tax Court denied the taxpayer the right to claim the deduction because there was no valid outstanding debt on which he could base his claim to the deduction. At best, his wife's liability to repay the loan was based on the contingency that the magazine earn profits, a contingency which was extinguished together with her liability when the magazine was dissolved.

The Tax Court also pointed out in the course of its decision that intra-family transfers of this type are presumed to be gifts—rather than loans—unless definite and affirmative evidence is advanced to prove that there existed at the time of the transaction "a real expectation of repayment and an intent to enforce collection."

Another Tax Court case is interesting for the manner in which it focuses attention upon two important *bad debt* points. These points may be presented in the following language:

1. An individual may not impute the tax characteristics of a "business bad debt" to his loans (or advances) unless they are related to his trade or business.
2. An individual is not permitted to impute the tax characteristics of a debt to his loans (or advances) unless he had definite expectations at the time that he made them that they would be repaid to him at some time in the future.

Both points are easily understood if they are projected against the factual background of the case:

> The taxpayer in question was both the president and a substantial stockholder of a corporation. He advanced various sums to the corporation at a time when it was hopelessly insolvent—at a time when he had written off all his previous advances to the corporation as bad debts. The advances were made for the purposes of meeting payrolls and miscellaneous expenses.

The taxpayer deducted these advances as "business bad debts" in computing his tax for the year. This treatment was flatly rejected by the taxing authorities on both of the grounds outlined above. The dispute was submitted to the Tax Court. The Court expressed full and unqualified agreement with the viewpoint of the taxing authorities.

In passing on the first point—as to whether the debts were to be treated as business bad debts—the Tax Court expressed little sympathy with the taxpayer's position. His activities as officer of the corporation, by themselves, did not constitute carrying on a business in the eyes of the tax law. This automatically removed the advances from the ambit of the "business bad debt" provision.

In passing on the second point—as to whether the advances could be treated in any event as a debt—the Court stated that "it is well settled that debts may not be deducted as bad debts unless they had value when created." The evidence in the case showed quite definitely that the taxpayer had no hope of

repayment when he made the advances. The advances were thus to be treated as capital contributions, not as debts.

Still another Tax Court case involved the *bad debt* deduction that a corporation claimed for the worthlessness of certain advances to its officers and shareholders. These brief facts are important only as an introduction to a restatement of the three factors that the Court stated "must be complied with before a taxpayer is entitled to a deduction for bad debts":

1. The debtors must initially have made an "unconditional obligation" to repay the advances;
2. The corporation must have exhausted all reasonable means of collecting the debt; and
3. The debt must actually have become worthless during the year in which it is claimed as a deduction.

The Court amplified the last condition by pointing out that if a deduction is sought for the *complete* worthlessness of a debt in any one year, the taxpayer must come to court with proof to show that the debt "had some value" at the beginning of the year. Otherwise, its worthlessness will automatically be imputed to a prior year.

The discussion of this valuable deduction would not be complete unless mention were made of two additional points. The first of these is encompassed in the following question: May a taxpayer claim a deduction for the partial worthlessness of a debt? For example, let us suppose that the sum of $1,000 is owed to a taxpayer. He knows for a certainty that he will collect only $500 of the debt. Under these circumstances, can he deduct the uncollectible balance as a bad debt? This is possible in the case of business bad debts; it is not possible in the case of non-business bad debts. He can only deduct the latter when the whole debt (or outstanding balance) becomes worthless.

The second point relates to the "reserve" method of claiming business bad debts. Under this method—it is applicable only to business bad debts—the taxpayer creates a "reserve for bad debts." He then adds a sufficient amount to this reserve each year to cover his future expected losses from worthless accounts. m/m

diagnostics

FOR MANAGEMENT

by Leslie M. Slote

Ass't. to the Pres., Ketay Mfg. Corp.

Management and Labor Relations Consultant

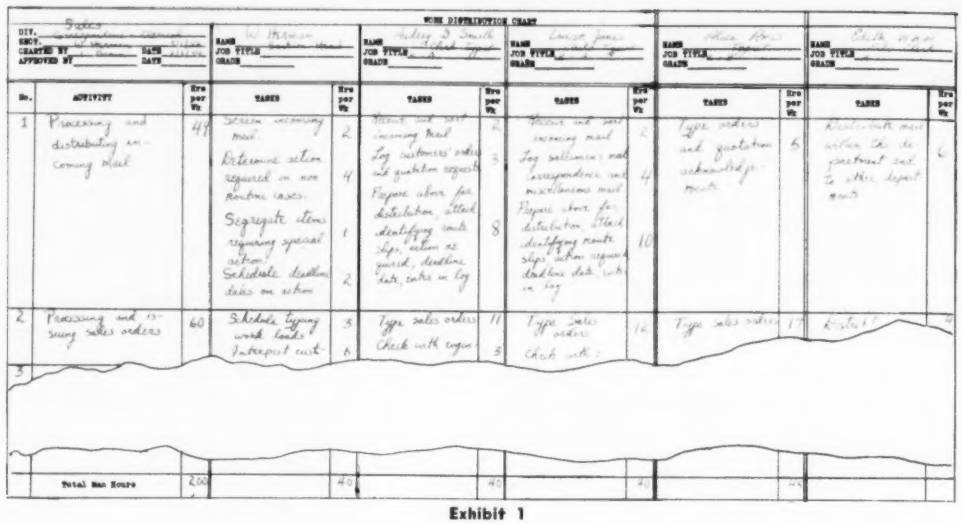
question:

"Our office staffs in Accounting, Purchasing and Sales have expanded. Due to the current nature of the clerical market, turnover has been higher than usual. With increased work loads, we find it difficult to keep up with scheduled operations, which frankly causes chaos at times. We are sorely in need of a management audit to determine the effectiveness of office operations and to put our finger on trouble spots. We prefer, if possible, to make our own preliminary analysis, to decide whether it would be more advantageous to call in a systems consultant. Can you suggest an approach to the problem that lies within the scope of the average office manager?"

diagnosis:

The easiest and quickest way to obtain an accurate, bird's-eye view of all the clerical or administrative work being accomplished in a department (or in any office unit, for that matter) is through the work distribution chart, in any one of its various forms. The use of this simple charting tool points up all activities and work elements in proper perspective to each other and in relation to the over-all picture.

The technique of preparing the work distribution chart is quite simple. The chart itself consists essentially of a number of vertical columns (see cut, page 8). The first column on the left hand side lists in order of importance all activities carried on by the department or unit. Each succeeding column to the right is headed by the name of an employee, job title and grade; then vertically, all the tasks (sub-activities and transactions) performed by that employee are listed, arranged to line up horizontally with the corresponding department activity in the original left hand column. The number of hours per week required for each task is also listed alongside the task in each employee's column. The listing of an ac-



WORK DISTRIBUTION CHART

DIV. Sales — SECT. [illegible] — CHARTED BY [illegible] DATE [illegible] — APPROVED BY [illegible] DATE [illegible]

No.	ACTIVITY	Hrs per Wk	NAME [illegible] JOB TITLE [illegible] GRADE [illegible] TASKS	Hrs per Wk	NAME Audrey J. Smith JOB TITLE Clerk-Typist GRADE [illegible] TASKS	Hrs per Wk	NAME Louise Jones JOB TITLE [illegible] GRADE [illegible] TASKS	Hrs per Wk	NAME [illegible] JOB TITLE [illegible] GRADE [illegible] TASKS	Hrs per Wk	NAME [illegible] JOB TITLE [illegible] GRADE [illegible] TASKS	Hrs per Wk
1	Processing and distributing incoming mail	49	Screen incoming mail. Determine action required in non routine cases. Segregate items requiring special action. Schedule deadline dates on action	2 4 1 2	Receive and sort incoming mail. Log customers' orders and quotation requests. Prepare above for distribution, attach identifying route slips, action as required, deadline date, enter in log	2 3 8	Receive and sort incoming mail. Log salesmen's mail correspondence and miscellaneous mail. Prepare above for distribution. Attach identifying route slips, action required deadline date, enter in log	2 4 10	Type orders and quotation acknowledgements	6	Distribute mail within the department and to other departments	6
2	Processing and issuing sales orders	60	Schedule typing work loads. Interpret cust.	5 6	Type sales orders. Check with engineering	11 5	Type sales orders. Check with	12	Type sales orders	17	Enter	4
3												
	Total Man Hours	200		40		40		40		40		

Exhibit 1

tivity or task should consist of a brief phrase, specific enough to avoid ambiguity.

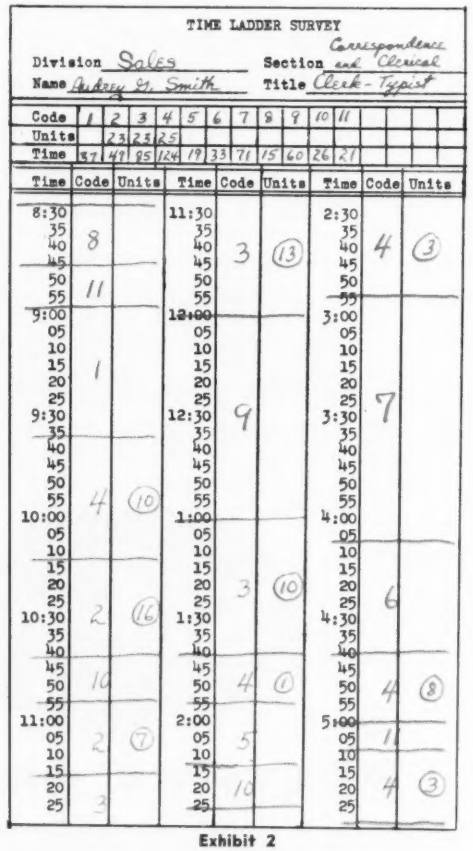
Each employee prepares his own task list, estimating the number of weekly hours devoted to each task. This list is checked with the supervisor for completeness and accuracy. Naturally, it should be possible to classify each and every task under one of the appropriate major departmental activities listed in the left hand column. Very frequently, employees are unable to approximate the weekly time required for each task. A simple method of solving the problem is to have each employee maintain a "time ladder" sheet each day for one week (see Exhibit 2). The sheet lists the time from the start to finish of the work day, usually in 1, 2, 5, or 15 minute intervals. The time interval devoted to each task is marked off as shown and a code number is entered corresponding to the particular activity occurring during that interval. Code numbers must account for all time, including actual task time, lunch time, personal time, waiting time, miscellaneous work, etc. Wherever possible, the number of transactions or units of work accomplished should be entered as a means of determining work measurement. A time ladder such as this is simple to keep, is more accurate than estimates, automatically includes allowances for fatigue, delays and personal time, permits comparison of individual employee performance and gives a picture of employee work distribution.

The work distribution chart shows, in blueprint form, how the work in a given department is divided among the workers, qualitatively and quantitatively.

The final step is to study and analyze the chart from a common-sense viewpoint, with the following aims:

Mary Smith—Task List

Code	Task
1	Receive and sort incoming mail
2	Log customers' orders and quotation requests
3	Prepare above for distribution, attach slips, etc.—enter in log
4	Type sales orders
5	Check with Engineering on interpretation of orders
6	Follow up to determine if action is being taken to meet scheduled dates—report findings
7	Type reports and correspondence
8	Miscellaneous work
9	Lunch time
10	Personal time
11	Waiting time



TIME LADDER SURVEY

Division Sales — Section Correspondence and Clerical
Name Audrey J. Smith — Title Clerk-Typist

Code	1	2	3	4	5	6	7	8	9	10	11
Units		23	25	25							
Time	57	49	85	124	19	33	71	15	60	26	21

Time	Code	Units	Time	Code	Units	Time	Code	Units
8:30			11:30			2:30		
35			35			35		
40	8		40	3	13	40	4	3
45			45			45		
50	11		50			50		
55			55			55		
9:00			12:00			3:00		
05			05			05		
10			10			10		
15	1		15			15		
20			20			20		
25			25			25	7	
9:30			12:30	9		3:30		
35			35			35		
40			40			40		
45			45			45		
50			50			50		
55	4	10	55			55		
10:00			1:00			4:00		
05			05			05		
10			10			10		
15			15			15		
20			20	3	10	20		
25			25			25	6	
10:30	2	16	1:30			4:30		
35			35			35		
40			40			40		
45			45			45		
50	10		50	4	1	50	4	8
55			55			55		
11:00			2:00			5:00		
05	2	7	05	5		05	11	
10			10			10		
15			15			15		
20			20	10		20	4	3
25	3		25			25		

Exhibit 2

1. To redistribute unrelated work.
2. To combine related tasks for simplification.
3. To correct duplication and overlapping of activities.
4. To eliminate unnecessary tasks.
5. To distribute department work loads more evenly.
6. To utilize individual worker skills more advantageously.
7. To evaluate performance.
8. To utilize fractional times.
9. To staff more intelligently.

All these combine to obtain a better flow of work and reduce clerical costs.

question:

"We are plagued by physical quantities of in-process materials that build up and remain under work benches in work centers as items which can be later reworked and repaired or salvaged in part. What can we do to expedite the physical disposition of unacceptable work in various work centers?"

diagnosis:

Departmental foremen are cost-conscious and for various other commendable reasons are loathe to scrap parts and sub-assemblies. They have unacceptable items put aside to be reworked or repaired at the first opportunity. And even when scrapping is inevitable, they usually have an eye out for reclamation of all possible salvage. The net result is that rejected materials pile up because the foreman is busy with daily operating problems. Even when it comes to salvaging money from scrap, he may not have the necessary answers. I know several plants that solved the entire problem by hiring a Materials Review Analyst who receives daily reports of all rejected materials, regardless of category with respect to rework, scrap, etc. It is his responsibility to examine all such material within 48 hours and to make a written decision concerning action to be taken or disposal. Production Planning receives a copy of the decision and takes steps to see that the material is immediately scheduled for movement and processing in accordance with the instructions. This very neatly solves the problem and helps to reduce production costs considerably. m/m

"I think..."

PROS AND CONS TO THE EDITOR

How do you compare methods?

Dear Mr. Editor:

The methods specialist frequently is called upon to select the best of two or more proposed methods or systems. Invariably he is expected to justify his selection in terms of cold *dollars and cents.* Regardless of intangibles, such as the effects on morale, he usually must convince management that the selected system will reduce expenses.

Out of these circumstances comes the mistaken impression on the part of many office managers and of some methods men themselves, that the system that operates at lower cost is therefore a superior system. And one might exclaim: "Well, isn't it!"

The answer is *no.* Comparative costs, the way they are normally computed, cannot serve as a true or fair criterion of the relative merits of systems. Many companies discard basically sound systems in favor of inferior ones. And they point to lower cost as evidence of their wisdom.

What they fail to recognize is that the fellow who is promoting the new system is usually preparing the cost figures. More significant, they lose sight of the fact that when comparing an old system with a new one, they are likely comparing a system which though basically good, was poorly administered.

Let us consider two standard types of Order-Billing systems, which we will call system A and system B.

System A uses: (1) a standard typewriter to create a spirit duplicator master, (2) a spirit duplicating machine to reproduce production and shipping documents and invoice sets and (3) a calculating machine to compute invoice extensions and totals. *System B* uses: (1) a standard typewriter with either a continuous, or unit set, one-time carbon form to create shipping and production documents and invoice sets and (2) a rotary calculator to extend the original customer order (in the case of pre-billing) or a copy of the complete shipping ticket (in the case of post-billing).

Now, note that there are many companies at this very moment who are discarding system A and eagerly embracing system B. At the same time there is perhaps an equal number of companies who are jettisoning system B in favor of system A.

Obviously something doesn't add up. Of course we have the old platitude that what's good for the next guy isn't necessarily good for us. We cannot satisfactorily explain this by saying that the problems are different in different companies. Most companies have to deal with rush orders, scheduling problems, impatient customers, insufficient inventories, back orders and partial shipments. In fact, the more one studies the conditions and the problems in different companies the more similarities he sees.

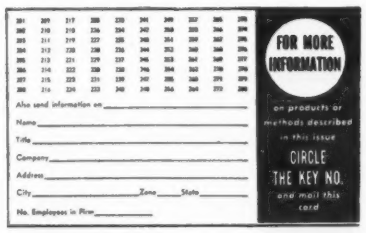
The writer can recall one new system he installed which involved new writing equipment and a conversion from pre-billing to post-billing. In this particular case there was a six-month delivery wait for the new equipment. Before the equipment ever arrived, before new forms were available, before some of the new procedures were effected, there was a reduction of six people in a department of seventeen. Incidentally, volume had stayed at about the same level.

How did this come about? By eliminating duplications and unnecessary operations, brought to light by the analysis. By streamlining certain procedures in anticipation of the new system. By improving the layout of desks and the flow of work. By reassigning clerical tasks and breaking bottlenecks. By instilling a spirit of cooperativeness into the people. By job re-evaluation. By salary adjustments.

To this day there are those who claim that the new system caused this reduction of 30% of the staff. The writer is convinced—especially in the light of added experience—that the old system was superior, as systems go.

One should not infer from the above reasoning that it is best to leave the present system in effect—*as is*—and not change systems. If the system has not been scientifically analyzed and properly staffed, then by all means it should be analyzed. And, if a new system is indicated it should be recommended. But the recommendation must be based on a competent, fair, true comparison of the present system with the proposed system.

Sincerely,
EDMOND W. MCNAMARA
Procedures & Systems Analyst
The Bassick Company
Bridgeport 2, Connecticut



USE THE READER SERVICE CARD FOR MORE INFORMATION

methods asks the experts

THIS MONTH'S EXPERT

John C. Emery
President
Emery Air Freight Corporation

Mr. Emery has been president of Emery Air Freight Corporation since its organization. He has the distinction of being the first air freight forwarder authorized to operate by the Civil Aeronautics Board. In eight years the company has grown from an idea to a transportation system handling between 15,000 and 20,000 shipments per month. His transportation experience goes back more than 30 years and has included railroad, highway, air and water transportation. He participated in the establishment and operation of the Navy's air cargo forwarding system.

A report to top management

Why air freight is changing the businessman's concept of distance

question Mr. Emery, about two years ago we carried an article, in *Management* METHODS, on how a machinery company was able to ship a heavy Vertical Grinder from Boston to Chicago by air for about the same cost as truck transportation (see box). We received dozens of letters from surprised businessmen asking for more information. Do you think the general business public is poorly informed on air freight rates?

answer Perhaps, but experienced traffic men are familiar with the areas in which air freight is competitive with other types of carriers. Air freight is competitive, for example, on many heavier shipments. I think it's a mistake, however, to overemphasize air freight as an all-purpose competitive carrier. It isn't. Depending upon the commodity involved and the size of the shipment, it's just about five times as expensive as railroad and truck rates. To get back to your question, though —I don't think there's a lack of knowledge about rates so much as I think there's lack of understanding of how to utilize the potential in air freight by eliminating high cost factors like warehousing, inventory and perishability.

question Do you mean that comparison with other types of carriers should be on a basis of service and speed, rather than price?

answer Actually I think it's a matter of *avoiding* comparisons with the surface carriers. It's a matter of accepting a new doctrine that, at least domestically, distance does not exist. Let me give you an example: I know of a businessman in Richmond, California, who is a customer of a New Jersey manufacturer. He consistently receives air shipments from the home plant earlier the morning after placing his order than he has received simultaneously ordered parts from the San Francisco branch warehouse of the company. It's 3,000 miles from New Jersey and 15 miles from San Francisco. In transit time, distance is the same.

question The difference in transportation costs must have been terrific though . . .

answer Only if you compare *rates*. It's conceivable, however, that the New Jersey manufacturer could eliminate the cost of his San Francisco warehouse and the cost of carrying an inventory there and keep his *selling price* constant. In effect, distance costs money when it forces a businessman to build and stock a remote warehouse in order to provide service to customers.

question Have you ever actually seen a practical example of air freight eliminating the rate differential on a cost basis?

answer Here's a fairly analogous case. A midwestern manufacturer had ten widely scattered plants. Each was fully staffed with a full complement of payroll, accounting and attendant overhead personnel. On this decentralized basis, full utilization of machine accounting equipment and supervisory personnel was impossible. In an effort to correct this situation, the company's chief accountant made a careful study of the savings that would be possible from a centralized accounting operation. An experiment was begun. The manufacturer began paying the personnel in one distant plant from the payroll department at the central office by flying time cards to the central office and paychecks back to the plant. The experiment is still going on but it is planned to expand it to the other ten factories. To all intents and purposes, for this operation, *distance does not exist.*

question What about the weather factor, Mr. Emery? In the case of the payrolls in transit you mentioned, wouldn't a delay create a mess?

answer Contrary to public opinion, bad weather is of no real consequence insofar as dependability of

Air freight vs. truck transportation

Here's a typical example: Reid Bros. Machinery Company have found that the over-all cost for shipping a heavy Vertical Grinder is often cheaper via air than via surface transportation. This is how they compare costs for a shipment from Boston to Chicago by air as opposed to motor carriers:

By Truck—Crated

Gross wgt. 2250#
Rate per cwt. $2.71
Crating Cost $65.00
Total $125.98

By Air—Uncrated

Gross wgt. 1750#
Cost of skid $3.00
Rate per cwt. $7.00
Total $125.50

Savings in tare weight (difference between crated and uncrated shipments) frequently more than offset the differential in transportation rates, regardless of speed and other fringe factors.

freight movement is concerned. New aircraft and improved electronic pilot aids have taken care of that. Last year one large airline operated 97.7% of all of its thousands of scheduled flights. On some of its most modern aircraft, performance was almost 100 percent. Remember, delays are seldom for more than an hour or two.

question Going back to the case history you mentioned before of a company possibly eliminating a branch warehouse, to your knowledge has this idea been widely picked up by industry?

answer I certainly don't want to imply that all branch facilities of national concerns can be eliminated. But it certainly is feasible to think in terms of eliminating warehousing and stocking of parts in fairly low demand. One manufacturer we deal with has branch factories in 36 cities and air freight, as an auxiliary to surface transportation, has been a tremendous factor in reducing his inventory costs on spare parts. At one time he was carrying 12 million dollars' worth of spare parts distributed throughout his 36 locations. As a corrective measure, he consolidated and concentrated in three distribution centers so situated that in most instances spare parts required for immediate use could be forwarded overnight by cheap surface transportation. In this case, air freight was used on the longer hauls and in emergency situations. The technique permitted him to reduce his inventory to six million from twelve million.

In another case, one of the large automobile companies operates under a production control plan which involves stock piles of some components limited to only 30 hours' usage at the standard production rate. These components are fed into the production line by train and truck on a precisely timed schedule. Air freight is used in emergency situations where the normal carriers fail—in other words, it's air freight that makes the plan work smoothly. Yet, the cost for air transportation is only 2% of the company's total monthly transportation bill of ten million dollars!

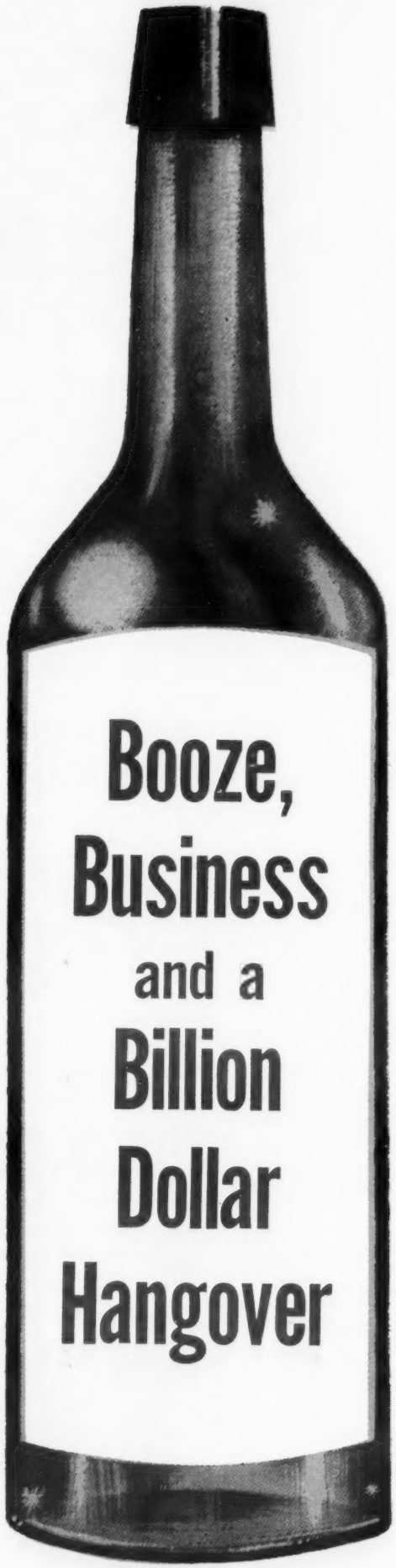
question What other specific areas of investigation, Mr. Emery, can you recommend to a businessman in line with the doctrine that "distance does not exist?"

answer In addition to savings and manufacturing costs, I'd say improvement in customer service and the creation of broader markets for expanded sales should be explored. It's now possible to market Maine lobsters in Texas and Hawaiian orchids in New York. Department stores, particularly, have become daily users of air freight on fashion merchandise. The reasons, of course, stem from high inventory value, the perishability of fashions and the need to coordinate purchases more precisely with sales. Merchandise flows from the garment centers to all points in the country—in some instances orders are even taken from samples and filled, by air freight, directly from the suppliers, eliminating repeated rehandling.

---

question Do you expect any material drop in air freight rates in the foreseeable future?

answer They may come down somewhat but remember that even at a 50% reduction they would still be much higher than surface transportation except for railway express. The main point I want to make is that reduced air freight rates are not essential to broader air freight utilization by industry. It's the elimination of distance *as a time factor* that is important to the management of business firms. Here's one more example to prove this point. Weather prediction today, 24 hours ahead, is fairly reliable and in 24 hours you can be anywhere in the United States by air freight. The combination of these two factors made it possible for one manufacturer of winter lubrication to execute a highly profitable sales promotion plan. A cold snap was plotted from weather reports to strike the midwest. He plotted reports from the weather bureau, had a postcard suggesting a switch to winter lubrication printed, and had delivery completed to prospects coincidental with the drop in temperature. Air freight did the job. m/m



Booze, Business and a Billion Dollar Hangover

by David A. Dietz
Former Editor,
Personnel Executives' Newsletter

Henry Smith, a promising employee in a research organization, had been off to a brilliant start nine years before. But as he acquired heavier and heavier assignments, he lost his "nerve" and began turning to the bottle for support and inspiration. He gradually started piling up absences until he would be out half the week or more. His department head learned of Henry's condition, but kept "covering" for him, since his work was highly commendable during those times he was not indisposed. Unfortunately, these occasions got to be fewer and fewer, and Henry eventually wound up in the hospital—a total loss to himself, his family, his community and, of course, his company.

Another case history concerns Jack, a master tool-and-die maker at the XYZ Manufacturing Company for eighteen years. Jack's drinking first started during military service, when he found himself under an unreasonable and domineering commanding officer. Shortly after his return to work he was transferred to a shop whose supervisor reminded him of this officer. Before long, he took solace in chronic drinking. He developed countless ingenious techniques for hiding his hangovers and so continued in this fashion for the next two years. What he couldn't control, however, was the distorted judgment and growing lack of coordination brought on by this kind of drinking. One day he made a serious blunder that damaged thousands of dollars' worth of equipment and seriously imperiled the lives of his colleagues.

Just how prevalent is this problem of the unsuspected alcoholic employee? A perusal of evidence meticulously gathered by authorities in the field of alcoholism discloses some mighty unpleasant facts.

Prevalence and profile of alcoholics

Number one, there are close to 2,000,000 "Henry Smiths" currently on American payrolls, according to *conservative* estimates. Alcoholism is certainly no respecter of occupations; whether you manufacture steel cable or silk thread, operate an insurance firm or a grocery business, *at least one out of every fifty of your employees is a problem drinker.*

Secondly, an equally conservative estimate places our national economic loss due to alcoholism at a billion dollars annually—while some other estimates run to more than ten times that figure.

Most of the computable loss is found in turnover, absenteeism, accidents, lost wages, waste and inefficiency (although such intangibles as poor morale, effect on co-workers, personal suffering, etc. are at least as important). It was found for example, that the average alcoholic is absent *twenty-two working days* out of the year as a direct result of his drinking. These employees have two to three times as many accidents as their colleagues.

In the case of office workers there is a double-barreled threat. Not only can their symptoms and errors be concealed more readily but the *cost of errors* can be entirely out of proportion to their seeming insignificance.

Finally, 80% of all problem drinkers are in the 35-55 age bracket. This is particularly significant in view of present shortages of skilled personnel, since this is the age bracket comprising the most highly trained and productive workers.

The one bright spot is that much of this tragic waste can be salvaged, to the benefit of both the problem drinker and his company, if certain proven procedures are followed.

Cost of errors multiplies itself: Inefficiency in the clerical operation is often a hidden and unseen cost factor. It can express itself as low output, errors, increased supervisory or executive time, disturbed customer relations, etc. One company found the average cost of a mis-file to be $61.23. A copying error by a scheduling clerk can disrupt the entire assembly line. The lawyer's secretary who mistypes one phrase in a contract can invalidate an agreement which required months to formulate. It costs three or more times as much to discover and rectify a clerical error, as it does to pay for correct work in the beginning. *Industrial Psychology, Inc.*

First step: remove misconceptions

No management can begin to cope with this issue without first overcoming, within its own organization, the prevailing prejudices and misconceptions about alcoholism. For this reason most in-plant remedial programs start with orientation talks to line and staff levels that stress these points:

(1) The problem drinker is not a moral weakling who merely needs to "pull himself together," but a sick person requiring competent guidance and treatment. The old Anti-Saloon League philosophy is definitely out.

(2) The vast majority of problem drinkers are not flophouse derelicts, but can be found in all walks of life. Many put in long years on responsible jobs before their abnormal predilection for drink is detected.

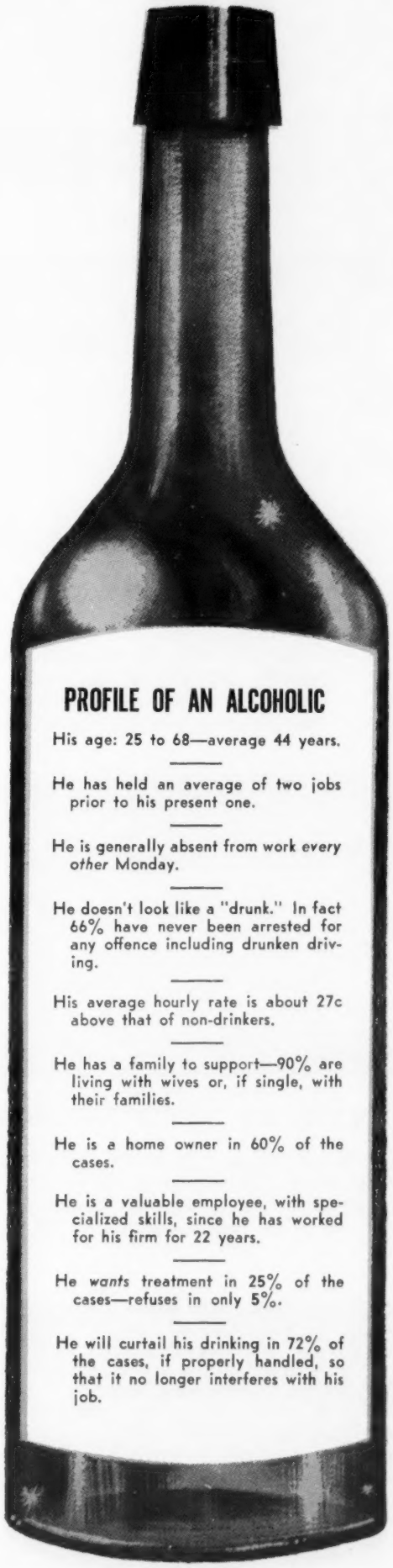
(3) Alcoholism is not a natural outgrowth of conventional "social" drinking, but usually a symptom of underlying personality disturbances.

One company's employee program

Allis-Chalmers Manufacturing Company was among the first industrial concerns to inaugurate a comprehensive program for its problem drinkers. A "Committee for the Study of Alcoholism" was organized, which first examined those few limited facilities existing in other companies, then obtained the services of a psychologist in preparing its own program. At the core of this program is a full-time "alcoholic counselor" whose chief function is to serve as advisor and confidant to all problem drinkers referred to him by their supervisors.

The alcoholic counselor was himself "through the mill" and can therefore lend a sympathetic and understanding ear in his private talks with employees. He is also wise to most of the ingenious alibis that alcoholics are capable of dreaming up. The counselor has utterly no connection with management and employees know they can discuss the most personal matters with him in strictest confidence. After all possible angles of the drinker's problem are aired and various forms of treatment discussed, the counselor then refers him to any of a number of available Allis-Chalmers services that he deems advisable.

(next page, please)



If his immediate problem appears to be caused by inadequate housing facilities or a burdensome debt, he is referred to the company's housing section or credit union. Some other services are in the areas of legal aid, recreation, welfare and veterans' counseling. If the problem seems more deeply-rooted, he is sent to the medical department for psychotherapy. The alcoholic counselor can also obtain medical check-ups, psychological tests, even hospitalization, for those cases requiring it.

During actual treatment the counselor maintains periodic contact with the referred employee so that he can keep tab on his progress and help him over occasional rough spots in a comradely manner. Even informal visits to the man's family are all part of a day's work to the alcoholic counselor.

Regularly scheduled supervisory conferences are an integral part of the over-all program. First come discussions on reasons behind alcoholism, improper approaches to the problem and the employees' and company's stake in finding a solution; then ways are discussed in which proper supervision can play a role in detection and rehabilitation of problem drinkers.

The results of the program

Allis-Chalmers started the above program with 71 referred alcoholics. Eight months later over half had made satisfactory job adjustments through reduced drinking, while most of the remainder were either active members of Alcoholics Anonymous or were showing slow but steady improvement on their own.

The absenteeism rate of these men fell from 8%—twice the plant average—to less than 3%. Their collective wage losses fell from $23,000 to less than $900 one year after the program was in operation.

Another more recent program, also meeting with success, was started by the Consolidated Edison Company of New York, in collaboration with New York University's Institute of Industrial Medicine. This program includes the services of a city-wide clinic, to which employees of other companies can apply if arrangements are made beforehand. This is a good procedure, incidentally, for groups of small industries

to adopt, where complete facilities would be too costly for any single firm to underwrite.

Work performance is the test

Under the Consolidated Edison program the judgment of the supervisor is paramount. It is he who decides whether an employee's liquor intake is interfering with his duties. If so, this constitutes a drinking problem and is handled accordingly. The man is first interviewed by his immediate superiors, often including the shop steward. He is told of his work deficiency and the connection between it and his drinking habit is brought forcefully, but understandingly, to his attention. He is then placed on probation.

After a complete report on the employee's behavior pattern—with particular stress on the drinking episodes—is sent by his department to the personnel director, he is referred to the medical department along with all pertinent information. If organic or psychological evidence is uncovered that confirms the presence of a drinking problem, he is offered the facilities of the clinic. Although clinical aid is not obligatory, most problem drinkers volunteer for treatment, knowing that their probationary status will cost them their jobs unless their work performance returns to par.

During treatment, which lasts two years if necessary, no report is made to the company. The employee's progress is judged by his superiors solely through the quality of his work. In the event of a relapse, suspension is determined on the basis of further medical prognosis.

The clinic treated 51 of its problem drinkers during its first year of operation. Only 10 were failures. Forty-one now have their problem under control and are successfully holding down their jobs with the company. The 41 originally averaged an absentee rate of 13 days per year, but now average 4 days—2 below the company average.

Community-wide interest developing

Early last fall, an unprecedented project in alcoholic rehabilitation was established under the sponsorship of E. I. DuPont de Nemours and Company. Called the Wilmington (Delaware) As-

sociation for the Study of Alcoholism, it solicits the support of all interested organizations and individuals on a community-wide basis. Programs feature public lectures on the problems of alcoholism, research into causes and consultation facilities for those individuals needing help.

While not enough time has elapsed for concrete results to be determined, this attempt to treat the problem on an integrated community level is being welcomed by authorities in the alcoholic field. It has long been their contention that industry itself would benefit most if the family, churches, schools and similar institutions would join hands to attack the roots of the entire complex of problem drinking.

As is true of most chronic diseases, the problem drinker has a poorer chance to recover the longer his condition remains undiscovered, while his ailment has the most favorable prognosis if "nipped in the bud." For this reason, current research into alcoholism is turning its sights upon the question of *prevention*—a question having especial relevance for industry, as seen by the following case history presented at a recent meeting on "Problem Drinking and Industry" at the New York Academy of Medicine.

The wrong way means trouble

No. 242 was a 39-year-old executive with 17 years' company service. Starting work at 22, he made excellent progress in the sales and research departments for ten years—and then a family tragedy struck. Although weathering this for awhile, he began having job difficulties and his alcohol intake rose from a social to a problem level. He was finally brought to the attention of management, a complete failure. He was hospitalized briefly and then returned to his job, where every consideration was given, but still to no avail. Then a transfer to a new work assignment was tried, also with no success. The next step was administrative discipline. When this failed, he was transferred to a menial position on hourly wages. Finally, he was terminated.

The point made about this case is that it reveals management's mistake in not acting upon the first obvious signs of this employee's problem, when *constructive* therapy could have been undergone. Once the crucial point is past, neither sympathy, discipline, nor transfers can lead to rehabilitation.

In the forefront of preventive developments is the Yale Center of Alcohol Studies. Here's what its director, Dr. Selden D. Bacon, recently said about the importance of a preventative approach for industry:

"The core of an industrial program to combat alcoholism is *not* the rehabilitation of cases . . . (but) is the discovery of early cases, the development of an atmosphere and of techniques to make remedial action available and attractive, or, for cases not susceptible to such treatment, get them out of the company before rather than after the damage is done."

For concerns setting up preventive programs of their own, Dr. Bacon suggests that these five points be borne in mind:

1. In any company, it is actually a small number of individuals from whom a large proportion of problems stem.

2. There is a means available for discovering this number.

3. There is a means for distinguishing those who can be rehabilitated by practical, tested methods.

4. There is a means for catching cases in earlier and earlier stages, leading to prevention.

5. The means are not esoteric, expensive, nor should they be incompatible with company policies or procedures. m/m

"worth repeating"

Coffee plays a production role:

A survey was made recently which pointed up the beneficial effect of the coffee break on employee morale and efficiency. It disclosed how 1,160 companies regard coffee breaks as a production tool:

- 82% noted reduction of worker fatigue
- 75% noted improved morale
- 62% noted increased worker productivity
- 32% noted reduced accident rate
- 21% noted reduced employee turnovers
- 16% noted reduced scrap
- 15% noted reduced waste
- 12% noted reduced absenteeism.

method of the month

by Mario Di Pietro
Supervisor, Reader Service Department
Product Design & Development

Photocopy *your volume inquires*

TRADE MAGAZINE COPIES 25,000 INQUIRIES MONTHLY WITH SMALL STAFF

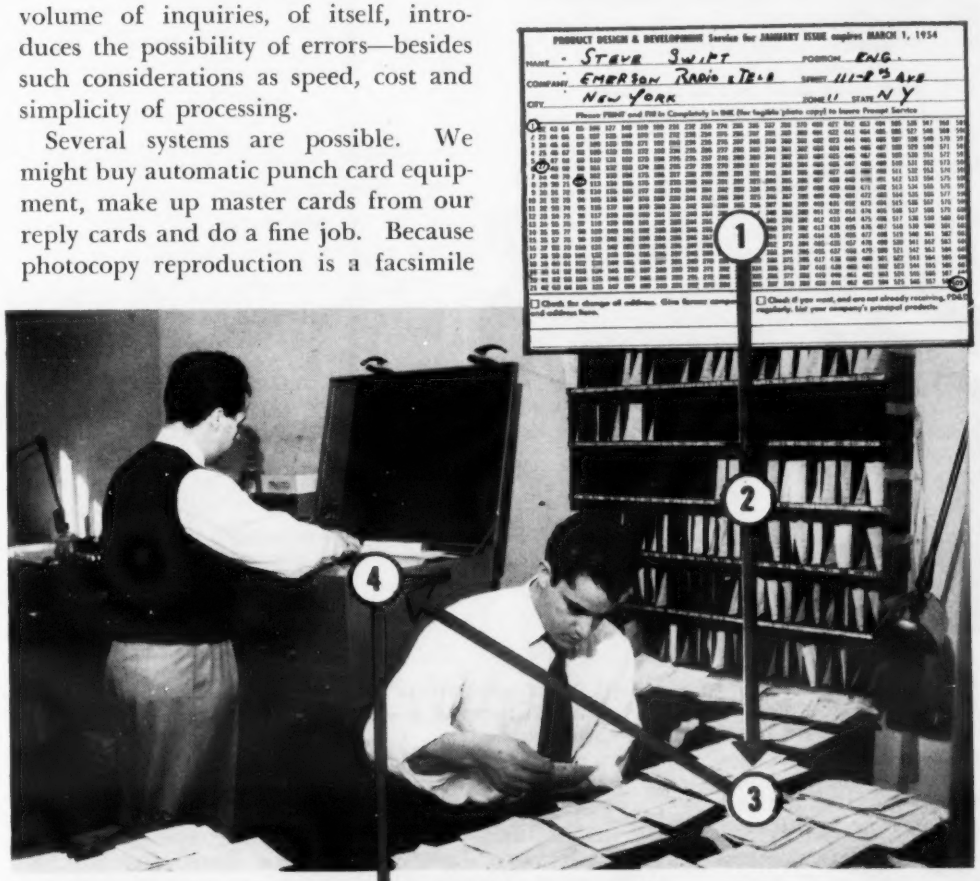
Thousands of inquiries arrive at the publication offices of *Product Design & Development* every month from engineer-readers who want more information about the technical products, services and literature described in the magazine. They want immediate information to help solve their current design problems. *Product Design & Development* can't undertake answering directly, of course, because of the many products available. Instead, we forward the questions to the appropriate manufacturers by means of photocopying.

The basis of our method is a standard business-reply card. Each editorial item and advertisement carries a key number to invite inquiry. When more information is wanted, the reader circles the particular number on the postage-free card bound into each issue. He fills in his name, title, company and address, then merely drops the card in the mail.

When cards are received, they are screened by the Circulation Department to weed out those not likely to be legitimate requests. For example, if a reader fails to fill in his job-title, the card is returned to the sender, along with a form letter asking for the missing title. If an unusually high number of items have been circled, say 50, or if the card is embellished with a decorative floral pattern, a telephone check usually reveals whether the reader was frivolous.

After initial screening, about 5,000 cards remain to be processed each month. On the average, a reader asks for information on five separate items, making a total of 25,000 inquiries monthly. Handling this tremendous volume of inquiries, of itself, introduces the possibility of errors—besides such considerations as speed, cost and simplicity of processing.

Several systems are possible. We might buy automatic punch card equipment, make up master cards from our reply cards and do a fine job. Because photocopy reproduction is a facsimile



1 INQUIRY is

2 SORTED

3 ASSEMBLED

4 PHOTOCOPIED

5 DISTRIBUTED

method and every copy is an exact duplicate of the original, the only potential source of error lies in human handling. We reduce this human error to a minimum by our sorting system and by checking at two stages in the process.

Other methods of transcription which we investigated involved deciphering the reader's writing at some stage in order to retype it. And automatic equipment requires a sizable investment, disproportionate to our needs.

Lowest number controls sorting

After circulation screening, reply cards reach the Reader-Service Department. Here they are sorted into an open vertical file according to the *lowest number* circled by the reader. When a batch has been sorted, all cards in *slot #1* are placed on "masking" tape, seven at a time. Only the information at the top of the card is exposed, each card overlapping the one preceding.

Two such rows of seven comprise one print. Two prints, or 28 individual cards, can be made in the photocopier every 30 seconds. The machine produces an intermediate negative, black-on-white, by a "wet-contact" process, for which no darkroom is needed.

After the intermediate print is washed and dried on a rotating drum dryer, all cards are unstripped and resorted according to the *next lowest number* circled by the reader. The intermediate, in turn, goes on to a dry-contact process machine which makes as many prints as needed. Final prints are sent out to the companies for action and follow-up.

Here's an example: a card arrives with numbers 1, 27, 92 and 609 circled by the reader. It is placed in the vertical file according to the lowest number, #1. Operators process all the cards in slot #1, as described above. After processing is completed, the card is placed in slot #27. Operators continue photocopying, following the slots in numerical order, 2, 3, 4, 5, etc. When slot #27 is reached, the card is again processed. This will make an intermediate print for the product whose key number is 27. After completion, the same card would go to slot #92 and wait for the next cycle.

In this manner, a card is photocopied as many times as there are numbers

circled on its face. One negative is made for every 14 inquiries per item: if item #1 prompted 28 readers to ask for information, we would make two negatives.

Copying is carried out on two photographic units by a staff of six. This includes operators, sorters, typists and mailroom clerks. During an average day, about 2,750 inquiries are handled; on a peak day, this climbs to 3,500.

Information on the card (name, address, title, company) is sent to the manufacturer of the product, his advertising agency and, if desired, to company sales offices. Since every inquiry is copied two or three times, reader-service turns out about 65,000 inquiry-copies every month.

Why it is better than other systems

Photocopying works out well for many reasons. Of primary importance, at least to us, is the inherent accuracy it provides. We pass on as much information as we receive, *as accurately as received.*

At the company receiving the photocopy, salesmen have an actual facsimile of the inquiry as written. Deciphering scrawled names is left entirely to them, a relatively easy matter when they call on the inquirers' firms. In addition, our own salesmen have copies of inquiries when they call on prospective advertisers.

Another advantage is the ease with which multiple copies can be made. When working from a master negative, every copy is equally legible and no carbons are needed. We retain master negatives for 18 months as a permanent record. This file permits us to supply additional prints at any time during that period at a very nominal cost.

A *single inquiry-copy* costs only 3⅓ cents to make, including materials, labor, rent, amortizing equipment, etc. There is no large capital investment for machinery, no darkroom space and technically trained personnel are not required.

Furthermore, any routine photocopying needed by the firm—letters, sales notices, forms, etc.—is produced on the same equipment during slack periods. If their cost was estimated and prorated, cost-per-inquiry-copy would be correspondingly lower. m/m

thought starters

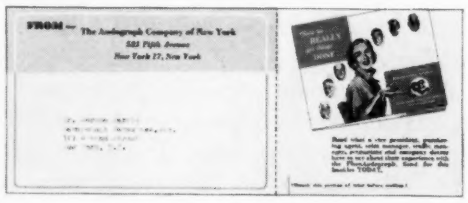
Thought Starters come from our readers, for the most part. Each one deals with a "practical solution to a management problem." The Editor invites contributions—which are paid for at our normal space rates.

PROMOTION thought starter

Gummed label helps screening in direct mail campaigns

A gummed, addressed label and a stamped return envelope are the basis of a money-saving direct mail campaign.

The Audograph Company recently wanted to circulate costly promotional booklets, but wanted to make sure it reached *interested* parties only. They sent out a short note with a shipping


FROM — The Audograph Company of New York
501 Fifth Avenue
New York 17, New York

label addressed to the addressee and a stamped reply envelope addressed to themselves. The note explained that if the recipient wanted a copy of the booklet, he had merely to return the label. No checking off or letter writing of any kind was required. The results proved satisfactory in the number and calibre of responses.

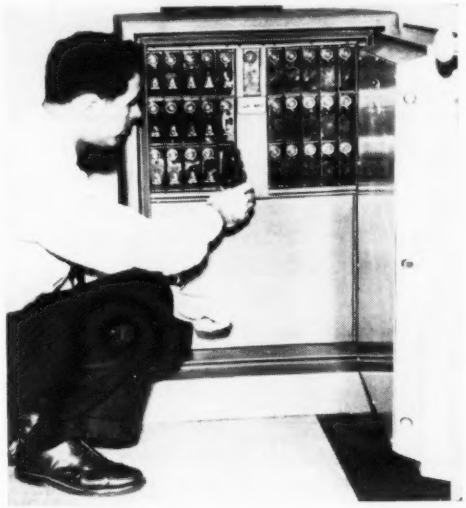
BANKING thought starter

Money handling system saves 180 man-hours a month

Eighteen ticket agents working in the National Airlines terminal formerly required 30 minutes daily to count and turn in their cash. In addition, each agent needed a 2′ x 3′ cash drawer.

With a new self-service system, check-in and check-out time is cut by two-thirds, most of the cash drawers have been eliminated and a safe is provided for overnight protection of cash. The money handling system was designed to solve the problem encountered by airlines, railroads, bus lines, toll roads, large and small retail stores and other types of businesses which have many persons handling tickets and cash in one location.

The unit used by National consists of a custom-made safe divided into two sections, the upper half for ticket agents' change funds and the bottom half for deposit of daily cash receipts.



The top section has a capacity for 30 individually locked safe deposit compartments, each containing a cash box. Each ticket agent is assigned a box and is given a cylindrical key which cannot be duplicated. For audit purposes, there is a master key which opens all boxes. If an agent fails to insert the box into the safe, an easily visible red button signals that fact immediately.

Wrapped currency is deposited in a special slot in the upper portion of the safe and it drops into a locked depository in the lower half. All deposits are picked up daily by an armored car service, which opens the lower part of the safe and transfers the currency envelopes to National's bank.

The airline maintains three shifts daily at its counter and the unit allows rapid shift changes, saves space and provides complete protection.

ADVERTISING thought starter

Line drawing effect through photo conversion process

A simple photographic technique for converting a continuous tone image into a line drawing has just been perfected.

The conversion, which results in an effect similar to that of a pen-and-ink drawing, may be produced from any

sharply detailed negative. No art work is necessary to prepare most pictures for such reproduction. Photomechanical reproduction of illustrations for general industrial and other purposes without the use of a half-tone screen is made possible.

In operation, the process combines a negative with a positive of nearly equal contrast, so that the positive in effect acts as a mask for the negative. The negative and the positive are then taped together in register and placed in contact with a sheet of special film. The film is then exposed either by rapidly spinning the printing frame underneath a fixed light or by rotating a movable light above a stationary frame. Either method allows some light to work its way around the edges of the mask and negative and produce a line image on the film.

This method is quite distinct from solarization methods of producing outlines or from the pseudo-relief effect obtained by using a negative and a positive slightly out of register with each other.

For a free booklet outlining the process in detail, Circle number 502 on the Reader Service Card.

MAINTENANCE thought starter

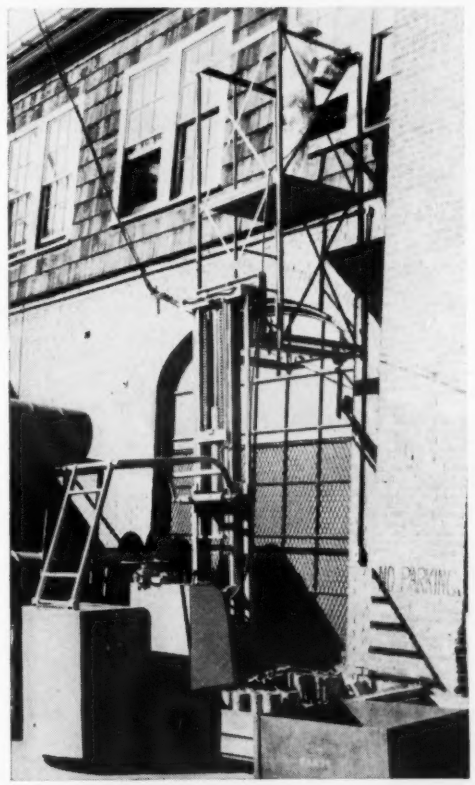
Scaffolding attachment facilitates and speeds plant maintenance

A scaffolding attachment to be used on electric fork trucks was recently designed to facilitate plant maintenance.

This attachment can be used by the maintenance department for both inside and outside repairs and for hard-to-reach trouble spots.

The lift truck's forks slide into sleeves on the underside of the scaffold, holding it securely. A ladder built into one side of the structure makes it easy to reach the platform when the forks are down. A high guard surrounds the platform for safety.

A novel feature is the remote control via the cable seen in the photo. The



truck is parked, automatically braked and with the lifting and lowering remote control, the man can raise and lower himself as desired. It is a one man operation.

For more information on other uses of this equipment, Circle number 494 on the Reader Service Card.

SHIPPING thought starter

Addressing labels now a by-product of tabulating system

A time-saving method of addressing multiple shipments uses a continuous label imprinted on tabulating equipment. Until recently, "stencil-labels" were typed as a by-product of the normal typing required on one-time carbon unit sets or continuous invoice or bill of lading forms. Many organizations speeded the handling of multiple shipments through this method.

To solve a specific problem, the Durkee-Atwood Company of Minneapolis, Minnesota, came up with a new adaptation of these labels on tabulating equipment. They previously used gummed labels on certain orders which were addressed and then affixed to the cartons.

Other orders were addressed by the use of a chopout stencil and fountain brush. They have now eliminated all gummed labels and chopout stencils and in their place use a label printed on the carton. This is done by the carton manufacturer at no additional cost at the time the other identifying or advertising material is printed on the carton. This becomes a permanent part of the carton and eliminates affixing gummed labels or the use of the slow, laborious stencil and brush method.

On first consideration, the company thought that the carriers who handled their merchandise might object to the considerably reduced size of

the address which is limited to billing or tabulating machine type sizes, as compared to the larger one inch letters of the brush-stencil method. However, when the carriers saw samples of the new cartons with the imprint on the box, they felt it was a more acceptable practice than the old method.

A continuous strip of stencils on a parchment carrier sheet which is punched marginally for use on various kinds of feeding devices was used. A system was devised of running the invoices first from the pre-punched cards and then re-running the same stack of cards in the same sequence after the continuous stencils were inserted into the machine. The tabulating machine was set so it would pick up only the address section, together with the purchase order number, Durkee-Atwood's invoice number and carrier. All other cards were by-passed with the result that this re-run took a very small percentage of the time required for the first run. After this second run, the stencils were attached to the shipping copies of the previously run invoices and sent to the shipping department. Here the stencil was applied to the very simple hand applicator as an order was filled and the boxes in the shipment were addressed merely by tapping the address into the center section of the label panel.

At the present time the Durkee-Atwood Company is more than happy with the definite savings in time which have been the result of the new method of addressing multiple shipments. There was no change necessary in the regular procedure of the tabulating machine invoicing and the only adjustments necessary were on the type pressure bar and a change in the platen.

For more information on special problems, Circle number 495 on the Reader Service Card.

How to get labor costs FAST

MAINTAIN DAILY MANAGEMENT CONTROL OF LABOR COSTS

by Mario R. Funari
Ass't. Comptroller, The Weatherhead Co.*

Most management men have said to their accountants, at one time or another, "The reports are fine, *but* by the time we get them, the facts and figures are stale." This criticism is justified in most cases. It is my belief that any cost which management can control on a day to day basis should be reported to them daily. One element of manufacturing cost which lends itself perhaps most readily to daily analysis and control involves all factory labor costs, namely: direct and indirect labor. The contents of this article are devoted entirely to some of the practical accounting techniques involved in controlling factory labor costs and reporting it daily.

Many accounting departments are organized solely to produce monthly profit and loss statements which inform management of the results of operations only twelve times a year. However, many companies, recognizing that their businesses are not static, but fluctuating from one day to the next, have requested and received daily profit and loss statements from their accounting departments. By that, I do not mean exact dollars and cents statements, but *reports which indicate the rate and direction of change* which is all that management is seeking.

I feel certain most readers will agree that an expense which is being reported to management 250 times each year is more easily controlled than if this same expense is reported only once a month. In many marginal businesses, this daily approach to accounting techniques appears to be the only practical solution to "getting the sick patient back on his feet." At first, the thought of preparing daily profit and loss statements may seem frightening to many readers, particularly, of course, the accountants who would have to shoulder the responsibility. But, with standard costs, budgets, and daily labor cost controls, the task is not as impractical as it first may appear, provided no attempt is made to "split hairs" or "balance-to-the-penny."

Preliminaries to daily control

Our company, with nineteen separate manufacturing plants, has been operating with standard costs and budgets for some years and, while we recognize the control value of such systems, it is our opinion that they can and should be supplemented to achieve a finer degree of control through the installation of daily controls particularly on factory labor costs. In the past several years, we have had the opportunity to evaluate the results of such daily controls and can report that very handsome dividends in the form of reduced direct labor and overhead costs have been realized.

Upon deciding to report all labor costs on a daily basis, it was quite evident that changes had to be made in our accounting and payroll departments which until then were organized primarily to see that each employee received his paycheck properly computed by payday.

Generally speaking, the labor cost distributions were prepared after the checks were written and issued. It was, therefore, obvious that the first change necessary for the establishment of daily labor cost controls was to revise the thinking of the personnel in the payroll department with regard to their most important function, which is to furnish management with a report today of

**Formerly, Supervisor of Industrial Accounting, Rockwell Manufacturing Company.*

what the company received for each payroll dollar earned by the employees yesterday, so that corrective steps could be taken immediately if fair value was not being received for payroll dollars spent.

Daily labor control reports must naturally begin with the time-keeping department, whose functions must be organized so that all payroll job tickets are received by the payroll department by no later than nine o'clock the following morning. In many cases, we found that the tickets were not turned in to the payroll department until two and possibly three days after the end of the payroll day which, of course, immediately defeated any opportunity for effective reporting of labor costs. Realizing the importance of speed in getting the job tickets to the payroll department as soon as possible, management has authorized overtime, when necessary, for the timekeepers to meet the schedule deadline. The labor tickets which are completed by noon each day are turned in to the payroll department then (*see Exhibit 1*).

The timekeepers are furnished with pre-addressographed job tickets, for all employees, which are pre-punched for clock number. All job tickets are completed by the timekeepers by inserting the following information: Department Number, Labor Class, Product Code, Elapsed and Actual Time, Pieces Started, Rejected and Paid For, Standard Time Per 100 Pieces, Part Number, Order Number, Operation Number, Machine Number, Part Name and Operation Name.

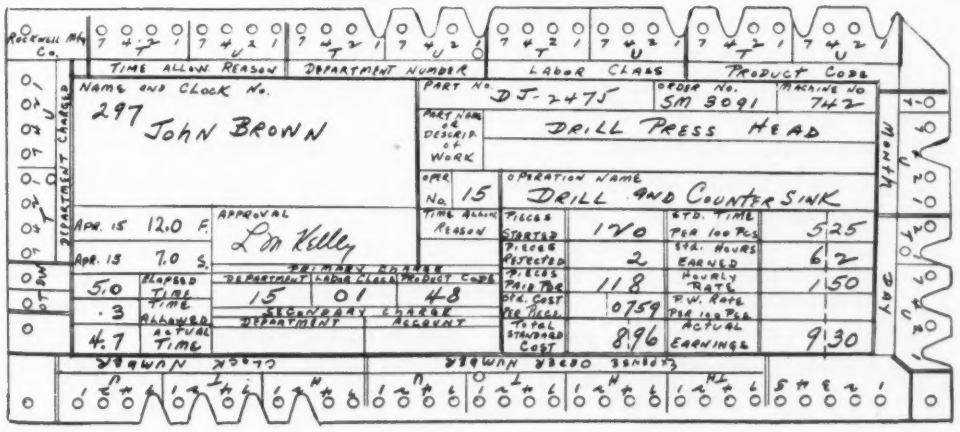
When the job tickets are received in the payroll department, they are first punched for all required information after which the incentive direct labor tickets are sorted out and immediately extended to determine which employees failed to earn their guaranteed base rate while working on incentive. As these tickets are being extended, the non-incentive or day work direct labor tickets are sorted out and given to a cost clerk for the application and extension of standard direct labor costs to each ticket. The standard labor cost is applied to the incentive direct labor tickets after the "incentive failures" report has been prepared.

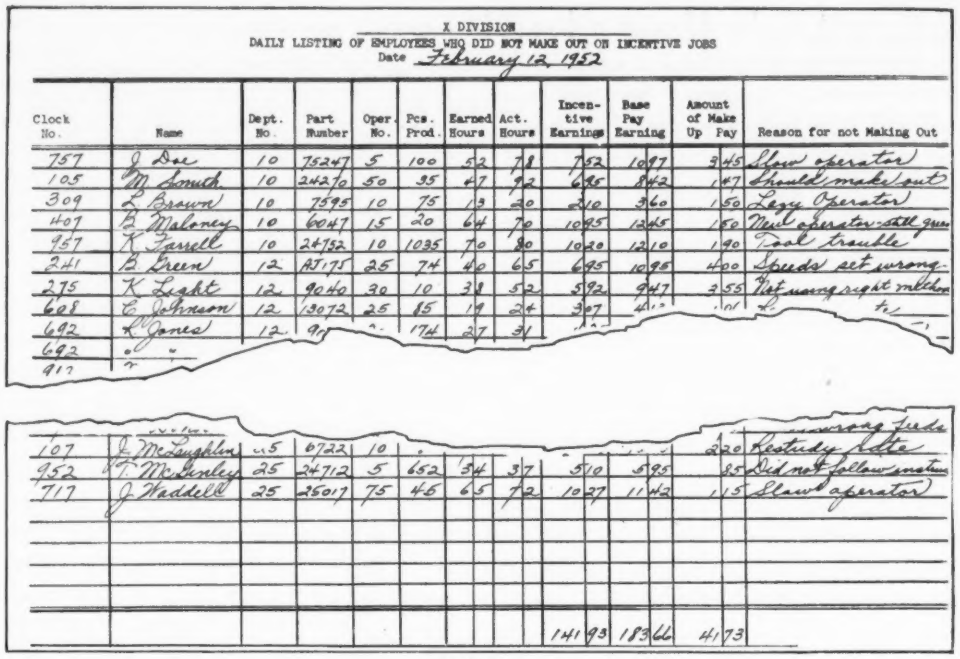
When an employee fails to make out on a given job, the payroll clerk prepares what we term a "make-up" ticket to bring his earnings up to his guaranteed base rate and keeps it and its job ticket apart from all other tickets for the preparation of the first of three daily labor cost control reports issued to management.

Before noon each day, the payroll department issues to the general manager, superintendent, chief industrial engineer and all production department foremen, a report titled "Daily Listing of Employees Who Did Not Make Out on Incentive Jobs," showing only those employees who failed to earn at least their base rate while working on an incentive job. This report is compiled directly from the job tickets set aside as indicated above and is prepared in pencil on a hectograph master so that ample copies can be secured from one writing (*see Exhibit 2*).

The report outlines in considerable detail what the employee did and it then becomes the foreman's responsibility to furnish the superintendent with

Exhibit 1—Labor Job Ticket





X DIVISION
DAILY LISTING OF EMPLOYEES WHO DID NOT MAKE OUT ON INCENTIVE JOBS
Date February 12, 1952

Clock No.	Name	Dept. No.	Part Number	Oper. No.	Pcs. Prod.	Earned Hours	Act. Hours	Incentive Earnings	Base Pay Earning	Amount of Make Up Pay	Reason for not Making Out
757	J. Doe	10	75247	5	100	52	78	7 52	10 97	3 45	Slow operator
105	M. Smith	10	24270	50	35	47	92	6 95	8 42	1 47	Should make out
309	L. Brown	10	7595	10	75	13	20	2 10	3 60	1 50	Lazy Operator
407	B. Maloney	10	6047	15	20	64	70	10 95	12 45	1 50	New operator still gun
957	K. Farrell	10	24752	10	1035	70	80	10 20	12 10	1 90	Tool trouble
241	B. Green	12	A7175	25	74	40	65	6 95	10 95	4 00	Speeds set wrong
275	K. Light	12	9040	30	10	38	52	5 92	9 47	3 55	Not using right method
608	C. Johnson	12	13072	25	85	19	24	3 07	[illegible]	[illegible]	[illegible]
692	K. Jones	12	9[illegible]	[illegible]	174	27	31	[illegible]	[illegible]	[illegible]	[illegible]
692	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
417	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	wrong feeds
107	J. McLaughlin	25	6722	10	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2 20	Restudy data
952	T. McGinley	25	24712	5	652	34	37	5 10	5 95	85	Did not follow instructions
717	J. Haddell	25	25017	75	45	65	72	10 27	11 42	1 15	Slow operator
								141 93	183 66	41 73	

Exhibit 2

an explanation as to why the employee failed to "make out." Our company feels, as do other companies, that its incentive rates are set fairly and that it is not unreasonable to expect the employees working on incentive, when they apply the proper amount of effort, to earn an amount equal at least to their base rates and in most cases 20% to 25% above their base rate.

The primary reason for getting this report into the hands of the foremen as soon as possible each day is to enable them to correct immediately the causes for incentive failures and thereby salvage performance on the remainder of the manufacturing order which may yet have four or five days to run. Quite often the foreman, with the aid of the industrial engineering department, can raise an employee's efficiency above 100% merely by checking the feeds, speeds, methods, setup, etc., being used by the employee. After the job has been completed, it is again too late to find out that the employee failed to "make out." Hence, the stress on speed in issuing this report.

When the foreman has completed the column headed "Reason for Not Making Out," the reports are sent to the superintendent's office for further analysis. The employees who consistently fail to "make out" are noted and the repeated occurrences entered on their personnel records when the reason furnished by the foreman is within the employee's control.

This report has resulted in the reduction of "make-up" costs in all of our revised payroll installations. In one of our most recent experiences, the "make-up" pay was running $125 per day. After only five weeks, this cost was reduced to approximately $20 per day. We realize we can never hope to eliminate this type of expense entirely. However, if we are able to reduce it to a minimum and hold it there, we feel our goal has been achieved.

The psychological effect this report has on everyone from the general manager on down to the employee on the machine can readily be seen. The employee knows if he fails to "make out" he must answer to his foreman. The foreman in turn must answer to the superintendent and the superintendent in turn must answer for all of his foremen to the general manager.

What's behind high earnings

While we certainly do not discourage high earnings by employees working on incentive, it's been our experience that a certain amount of control must be exercised over such earnings which appear abnormal since any incentive system, if not continually policed, can yield some very weird and troublesome results. Thus, since we have already

X DIVISION

Daily Analysis of Standard and Actual Direct Labor Costs by Products

Month February, 1952

Dept. Name Milling
Dept. Number 25

Date	Drill Presses Product Code 10		Lathes Product Code 20		Jointers Product Code 30		Saws Product Code 40		Total All Product Codes	
	Standard	Actual	Standard	Actual	Standard	Actual	Standard	Actual	Standard	Actual
Est.										
1										
2	185 05	205 16	125 67	141 89	180 32	195 32	129 12	150 71	620 16	693 08
3	175 17	190 31	140 31	160 52	110 75	120 47	200 82	238 91	627 05	710 41
4	165 31	183 52	134 56	155 61	130 57	140 31	200 67	245 61	631 11	725 05
5	172 04	199 05	135 12	150 21	125 97	160 31	161 92	195 55	615 05	705 12
6	190 75	210 31	145 05	165 22	160 05	180 42	114 36	143 77	610 21	699 72
7										
8										
9	209 87	220 41	165 32	187 05	125 07	140 37	100 11	127 49	600 37	675 32
10	210 76	230 17	170 31	195 05	153 64	160 47	105 62	130 00	640 32	715 69
11	170 75	195 71	170 40	185 32	160 32	170 16	159 24	168 92	660 71	720 11
12	175 12	190 05	155 13	180 05	135 05	151 07	140 02	177 53	605 32	698 70
13										
14										
15										
16										

Exhibit 3

taken a look at those jobs on which incentive failures have occurred, we next turn our attention to the other extreme of the incentive system to check on earnings above 150% efficiency. Such high earnings may be due to one or a combination of the following reasons:

1. Better than normal worker.
2. Loose standard.
3. Change in machinery, methods, or materials with no corresponding change in standard.
4. Incorrect piece count.

At the end of each day's payroll activities, the payroll department sorts out all incentive job tickets which were hand punched in cases where an employee's earned hours are more than 150% of the actual hours taken to perform the job. The tickets are turned over to the industrial engineering department so that they may be advised of the standards which should be scrutinized, after which they are returned to the payroll department files.

Distribution of total payroll earned

Each day upon determining the daily earnings of each employee, a cost distribution is prepared of the total payroll dollars earned by all hourly employees. A sort by department, by labor class and by product code is made of all job tickets. All direct labor tickets are posted to a "Daily Analysis of Standard and Actual Direct Labor Cost By Products" (*Exhibit 3*) by department, labor class and product code for standard and actual direct labor. The indirect labor tickets are posted by department and labor class only, to a "Daily Analysis of Indirect Labor Costs By Department" (*Exhibit 4*), after which the total actual labor costs, direct and indirect, distributed by departments are totalled and balanced against the total payroll earned that day.

In next month's *Management* METHODS, we will explore the control of *indirect* labor costs, the preparation of the "Labor Cost Barometer" and the significant ratios and trends which it reveals. m/m

Exhibit 4

X DIVISION

DAILY ANALYSIS OF INDIRECT LABOR COSTS BY DEPARTMENT

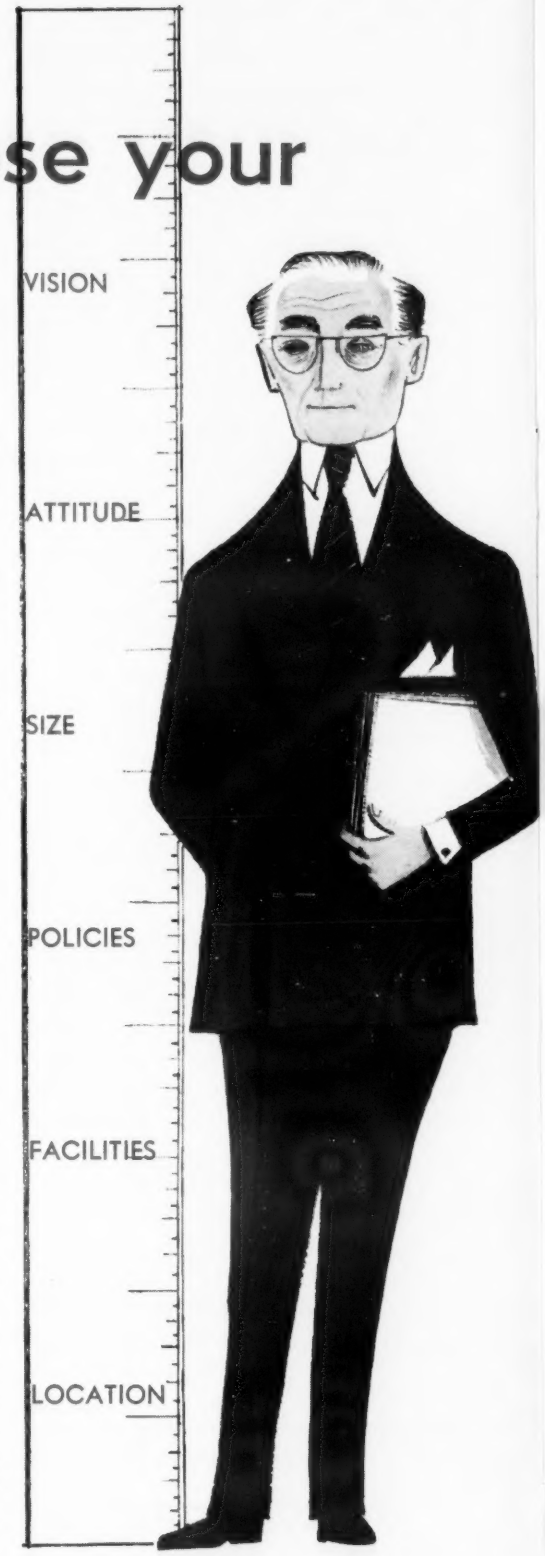
Month February, 1952

Dept. No. 25

Date	Rework 03	Set-up 04	Material Handling 05	Other Indirect 06	Super. & Clercial 07	O.T. Premium 08	Time and Oper. Allw 09	Vacations Hourly 10	Maint. & Repairs 13	Inspection 14	TOTAL
Est.											
1											
2	65 07	39 05	89 42	97 05	10 32		13 05		16 71	41 05	371 72
3	47 32	41 05	60 51	84 17	10 32		16 51		31 05	46 07	336 00
4	49 06	17 92	65 32	90 17	10 32		10 31		10 51	65 04	314 68
5	68 78	19 05	70 05	45 61	10 37		18 05		7 95	37 02	258 80
6	51 05	27 41	59 05	87 06	10 32	39 51	19 75		18 45	17 95	330 55
7											
8											
9	49 87	38 96	68 72	60 61	10 32		10 75		8 97	65 07	313 27
10	57 05	29 47	71 85	39 72	10 32		9 27		13 47	49 52	281 27
11	18 95	14 52	64 28	78 17	10 37		11 32		16 42	57 09	268 72
12	29 37	7 37	59 64	42 52	10 32		14 31		18 95	41 51	228 99
13											
14											
15											
16											
17											
18											

by Edward F. Reiter, Vice Pres.
Commercial National Bank of Peoria, Illinois*

How to choose your



What should you look for in sizing up a banker? There are five main points to consider: progressiveness, attitude toward your business, credit services offered, size of his bank and its management policies.

Is the banker progressive

As a progressive businessman, you naturally will want to do business with a progressive banker—one who keeps pace with changing conditions and is alert to the developing requirements of the community he serves.

Physical appearance can give some indication of a bank's progressiveness, or lack of it, and in this way can be a factor in choosing your banker. But don't let "eye appeal" alone control your judgment. Unquestionably, up-to-date quarters which are clean, attractive and furnished with modern equipment may give some indication as to the banker's desire to meet and please new customers. Likewise, the presence of a handy parking lot, sidewalk teller windows, air conditioning and modern lighting may give clues to the bank's progressiveness.

Nevertheless, it is always important to appraise physical features with balanced judgment, taking into account the real needs and possibilities of the particular situation.

What about a bank's employees? Are they reasonably young, interested in your problems, active in civic affairs? *Has your prospective banker called on you and solicited your business,* or does he seem to give you a cool, remote treatment as if he would be doing you a favor to accept your account?

One of the best tests of a bank's acceptance of progressive ideas is the character of its advertising. Is it fresh and imaginative, or does it tell you to do business with the bank merely because it is a "sound institution" and has been in existence longer than any other bank in town? By and large, a bank is as good as its present officers and that has very little to do with the executives in charge many years ago.

Banker's approach to your problems

When you go in to have a talk with a banker, you can learn a lot about how he would approach your problems by his attitude toward you and your business and by the kind of information he considers important. An interested, helpful approach on the part of the banker can be a significant factor in selecting the most suitable bank for your business.

First of all, does the banker regard the prospective relationship as one in which he would help you to become a better manager? If he is an efficient, progressive banker, he will be interested in helping you in this way and in building a continuing relationship that would mean profitable business for the bank over the years. His enlightened self-interest is to your advantage, too, for it leads to a healthy growing bank.

In this connection, it is logical for a banker to be interested not only in having your borrowing business, but also in your account as a depositor. Both aspects of banking are "two-way streets." In the first place, as a depositor you have a safe place to keep your money plus the convenience of being able to transact business by check. At the same time, your deposited funds give the banker reserves against which to make loans. In the second place, as a borrower you gain access to the capital you need to operate your business. At the same time the banker earns income in the form of interest on each dollar he lends.

In regard to selecting your banker with the aim of building a permanent relationship, here is a fact that is well worth keeping in mind. You will find that it doesn't pay to move very frequently from one bank to another—especially in days of relatively tight credit. The banker is only human and you should understand his resentment

**This article, in part, was prepared for the Small Business Administration, Dept. of Commerce.*

banker

at losing an account to another bank because of a difference, for example, of one-quarter of one percent in the interest rate charged on a loan. If you were repeatedly to try one bank after another, you probably would not be welcomed back with open arms by one of your former bankers. He would recall his efforts and services and the hours he spent discussing your problems with you. And he would figure that these things deserved some reciprocity.

An alert banker will want a great deal of confidential information from you. Good banking practice demands that he protect himself, his depositors and you. Therefore, you should expect him to look carefully into your records, needs and plans. Ideally, he should want to know as much about you and your business as you do yourself. Of course, while the banker is entitled to all this information, he is at the same time obligated to keep it in the strictest confidence. His professional discretion should be as completely reliable as that of your doctor.

In deciding upon a banker to do business with, don't think of the preparation of detailed financial statements as a nuisance imposed upon you by the banker's unreasonable love for statistics. Take into account the fact that he cannot live with your business day by day, as you do, and that he can judge your financial position and progress only through the information and figures which you give him.

As a new customer, you should invite him to go a step beyond the examination of your financial statements and make a visit to your place of business. In this way you can get to know him better and, at the same time, give him data with which he can serve you more satisfactorily. Usually, if he is at all interested in your business, he will welcome the opportunity.

When you are in the process of establishing a new banking connection, be prepared to show the banker that you're honest and that you have the capacity to run your business successfully. In this regard, you should not feel put out when he checks with the mercantile agencies to see how you have paid your obligations in the past. And you should assume that he will ordinarily make inquiries in the trade and will ask for the experiences of other banks with which you have done business.

Getting the right kind of credit

In the days ahead, a strong credit relationship with your bank may be a vital factor in the success of your business. With a heavy demand for funds and the possibility of rising interest rates, banks may tend to be increasingly selective in seeking loans for income. Thus it may be more complicated than in the past for businessmen to establish new lines of credit; so be sure your banker understands your particular needs and is prepared to service them.

If seasonal accumulations of inventory are your problem, a loan against public or field warehouse receipts may be the answer. Although some banks still remain skeptical of field warehouse credit, most of them will lend against salable merchandise with an established market.

Let us say, for example, that you have a sizable contract to make plastic cottage cheese containers for a dairy which plans to use them in connection with a pre-Easter promotion. To take advantage of quantity discounts, you need to buy all of the raw material in advance of your production schedule. But your supplier wants cash *on or shortly after* delivery. A warehouse loan will let you pay your supplier promptly and permit you to repay your bank when you deliver to the dairy. Will the banker go along with you on this sort of arrangement?

Or, perhaps your capital is tied up in accounts receivable during your heavy selling season. If your customers have acceptable credit ratings, you should be able to pledge these accounts and get a loan to pay your suppliers. However, not all bankers will take receivables as security for a loan.

Then again, let's suppose you have a sub-contract to machine parts for a

manufacturer of farm equipment. You can purchase the steel on 30-day terms. You can also deliver the parts in that length of time. But you won't collect from the manufacturer for another 30 days. Will the banker lend against your invoices to the manufacturer?

If your business is new or is invoiced in a major expansion, you may need to supplement your capital with "term" credit until such time as earnings can be accumulated for use in the business. Or perhaps you have reached a disagreement with your partner and it's a case of buy his interest or sell yours, but you'd rather buy him out. It's going to take awhile for you to pay off, but if you've got a good earnings record or reasonably demonstrable prospects, you've got something to talk about. Will the bank consider a term loan?

How big is the bank

Much of the time it won't be important whether you're doing business with the biggest bank in town or the smallest, but sometimes there's an advantage in size.

Remember that banks are regulated by Government agencies, and one of the most important regulations restricts the amount they may lend to any one customer. This amount is related to the bank's capital and surplus. You will want to know that your maximum credit requirements fall well within your prospective bank's "legal limit," or at least that the bank has correspondent relationships with which to place your "excess" loans. Otherwise they may find that you have used all the credit your bank can make available and no one else is interested in your additional needs.

Still another advantage in size is specialization. Many small banks don't have a trust department and you may require the services of one in connection with your will, with escrow arrangements or with the management of your investments. Perhaps you do a little export business. Does the bank have a foreign exchange department? Or if your dealers sell on installment terms, you may be able to arrange for your bank to handle their installment paper—provided, of course, that the bank has such department.

Through this same service, dealers

may be able to get "floor plan" accommodations for your merchandise so that bills can be discounted and so that you need less capital tied up in receivables. The procedure is essentially a form of inventory financing. It works this way: The manufacturer ships his product to the dealer with the title going directly to the dealer's bank. When the goods arrive on the dealer's selling floor, he then gets a bank loan which he uses to pay the manufacturer promptly. Thus the bank finances the dealer instead of the manufacturer having to do so. Many banks, however, do not undertake this lending service.

Sometimes prestige also goes along with size. After all, it may be assumed that one bank is bigger than another because more people do business with it. This may not be important to you and need not be decisive in your considerations. It may mean, however, that more contacts are available to you through your bank. At least it's a point not to be ignored.

What are the management's policies

In the process of selecting your banker, you should make sure you have a reasonable understanding of the bank management's policies.

One of the areas of policy which you would do well to know something about is the system of organization which the bank uses, since that system may affect your banking relationship.

Broadly speaking, there are three kinds of banking set-ups throughout the country. The first type may be called a unit system; in it a bank has just one office and does business in just one location. The second type could be called a branch system; here, there is one central bank with one or more branch offices located at different points in the same community as the main office, or even in other communities. The third type might be termed a chain system; in this case, there is a central holding company which controls several subsidiary operating banks in various localities. Variations in how these three systems function stem from State banking regulations. The situation in your own area will depend to a large degree on the laws of the particular state in which you live.

Which of the systems provides the best service to businessmen is a debat-

able question. Moreover, it is not the most significant point in connection with picking out a good bank; the important point is not the *system,* but whether or not the *particular bank* is suitable for your particular needs.

In this regard, you might also do well to investigate how deeply your prospective banker is concerned with the growth and prosperity of your local community and to what extent the management is local and permanent. Another point worth looking into is the speed and flexibility with which decisions can be made in your local area. Here again, the banking system is less significant than the management policies of the bank in question.

In recent years, bank failures have been only a scattered few and those have not involved large sums of money. Times have been good and banking regulations more rigid. In addition, most deposits today are insured by the Federal Government through the Federal Deposit Insurance Corporation. Confidence in the banking system is justifiably widespread and there is reason to expect that it will continue.

Your most reliable indication is the combination of integrity, experience, ability and initiative in the people who run the bank. Good management will usually produce a reliable and progressive bank, just as it will usually produce a healthy business.

Finally, once you have started a satisfactory banking relationship, you will want to continue close consultation with your banker. To get the greatest benefit from this consultation, keep the banker informed on new developments in your business and keep him supplied regularly with complete and current financial statements—even at times when you have no need for bank credit. Continuity of information enables your banker to handle credit inquiries intelligently, increases his confidence in you and makes it possible for him to meet your requirements as they arise.

Although your business may be perfectly healthy, a good "financial doctor" is a handy person to have around. So choose your banker thoughtfully and objectively and, once you have chosen him, do your utmost to make the relationship a satisfactory and profitable one for both of you. m/m

THE MANAGEMENT METHODS

work center

". . . men and machines don't work in a vacuum. Though you may saturate your Work Stations with skilled workers and modern tools, they can produce efficiently only when 'community' factors like traffic control, and adequate lighting, and proper communications — and even creature comforts— are properly integrated."

"integrated office

by Barnett Simons, *Interior Designer*

HOW TO MAKE

More room without adding space

WITH PLANNING, A PUBLISHER EXPANDS OPERATIONS AND FACILITIES WITH NO ADDITIONAL SPACE

Editor's Note: The following case history is a striking example of the value of professional guidance in office layout. Here a firm, already cramped, yet in need of even more facilities, was able to solve all of its space problems without increasing its square-foot requirements. According to the company's Treasurer, the economies involved may total $100,000 in the next ten years in rent alone.

As the organization grew, the old quarters of the Metropolitan Group, publishers of Sunday Newspaper Supplements, had grown spontaneously and without plan. Their offices, located on three floors of a single building, totaling 13,000 square feet, housed 120 badly overcrowded employees. The decentralized locations required an elaborate communications system in addition to an inter-office messenger staff. Worst of all, what should have been a coordinated editorial and production effort, had become badly departmentalized.

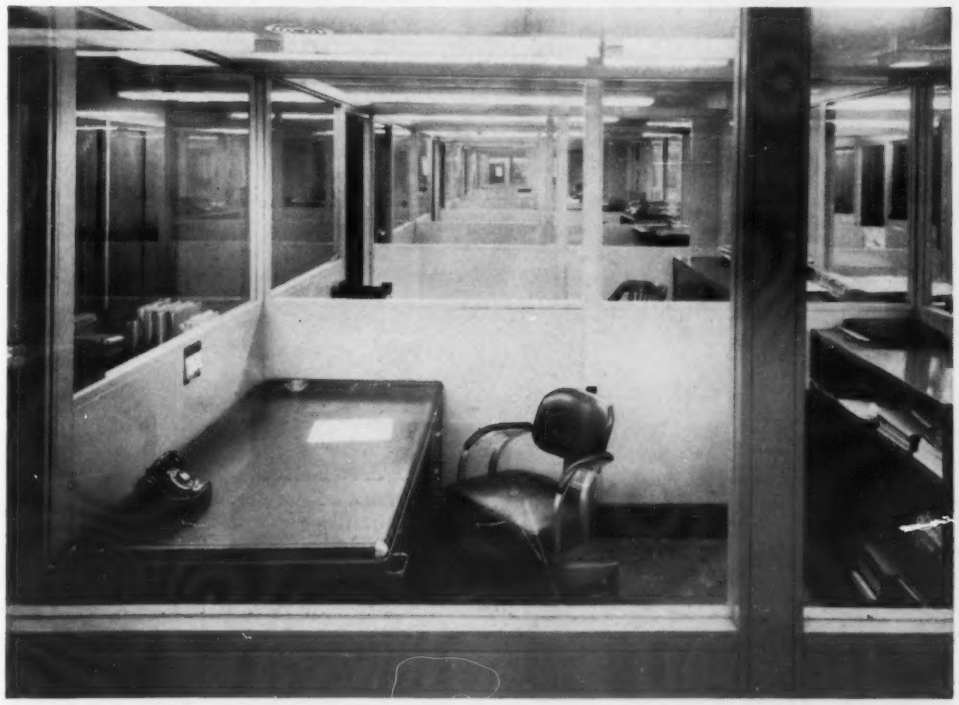
When space became available in a new air conditioned building the company's management retained Designs For Business, Inc., a consultant firm, to assist them in planning a new centralized operation. Using approximately the same amount of floor space the firm had occupied before, the designers found it possible to include a reception room, conference room, employees' recreation rooms, two new executive offices and two new sales offices! Although the over-all space allotment per employee may seem remarkably low, the company, by its own estimate, is now operating with a 20% increase in efficiency.

How it was accomplished

The reception room is a good example of the techniques employed throughout Metropolitan Group's new

▲ **ABOVE:**
The entrance to The Metropolitan Group offices uses a small amount of space wisely. Only nine feet deep, it gives the illusion of a large reception area.

▼ **BELOW:**
In the Central Sales Office Area, only 3,000 square feet is used by the company to create a comfortable work center for 22 salesmen and 22 secretaries.



quarters. Only nine feet deep, it has the illusion of spaciousness, thanks to the glass-walled entrance, minimum of small detail and subtle colors. Decorative interest is achieved by the use of contrasting natural materials — a cork floor against a straw-cloth wall and walnut against brass accessories.

In the corridors, the use of glass again creates a spacious feeling. It also serves to simplify the lighting plan since the corridors can now "borrow" light from all the adjacent offices.

Three thousand square feet were

Executive offices are sparsely furnished, featuring oversized walnut desks, "L" shaped to accommodate more cabinet space.

The glass walled corridors are easily lit since they utilize light from the adjacent offices. They maintain the airy, spacious feeling of the plan.

Secretarial space in sales areas is easily accessible from sales offices, yet distinctly separated from them. Change in flooring helps to partition office.

allotted to the central sales area. This space was carefully planned to house 22 "private" offices and 22 secretarial desks outside the offices. Actually the designers have created a work center for 44 people at an average of 68 square feet per person. The effect is neither cramped nor crowded. The area looks spacious and functions smoothly with excellent working conditions. Glass again was the logical partitioning material. Since the offices are small, opaque partitioning would have created the claustrophobic effect of tiny "pigeon holes" and, they felt, a psychological barrier between the sales and management forces.

The partitions defining the secretarial space are full steel for more privacy and greater efficiency of soundproofing. The change of flooring in the secretaries' offices is an interesting feature. It serves to define the corridors and creates a psychological "partition" around the office space without actually fencing it in.

Lighting anticipates change

The problem of lighting in the central office area has been solved particularly well. The fixtures are set close to the ceiling in an efficient pattern. The partitioning does not quite reach to the fixtures. This allows for easy re-arrangement of partitions without costly architectural changes involving wiring and air conditioning ducts.

Note that all furniture and partitions in the sales area are standard units. But the careful planning and ingenious use of these elements gives them a costly "custom-made" look.

The executive suite of offices occupies 2,000 square feet. This allows only 333 square feet for each senior executive, his files and his secretary. The executive offices themselves, since they are not as large as the usual "top brass" space, are made to appear large by sparse furnishings and pale, neutral colors. They feature handsome walnut desks, over-sized and "L" shaped, providing especially wide working surfaces within minimum floor space.

Summing up the benefits to his firm, Mr. Harry Corash, Secretary and Treasurer of the Metropolitan Group,

said, "Reduced to figures, one gets a quick, clear picture of the economic value of a planned interior, where it is possible to provide for smoother, more efficient operation and yet save perhaps 1,000 to 2,000 square feet of space, sold at say five dollars per foot. Over ten years this becomes a saving of from fifty to one hundred thousand dollars." m/m

planning idea

SEMISPHERE BUILDING

has no interior structural supports

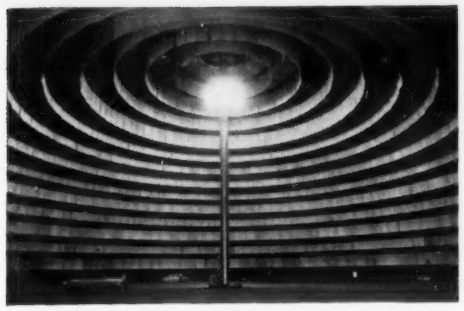
A huge new dome-shaped building just completed at Longview, Texas, has no interior structural supports. All of the assembly work to create it out of aluminum and steel was accomplished at ground level. Known as the LeTourneau Semisphere Building, it was built adjacent to the LeTourneau (manufacturers of heavy-duty electrical equipment) plant and corporation headquarters.

Similar buildings can be erected anywhere by shipping the prepared metal parts to the site. These new structures provide weather-tight floor space and cubic capacity at far less cost than conventional methods of construction and they can be erected in about 3,000 man-hours by semi-skilled labor. This 85′ high—300′ diameter building contains 3,289,402 cubic feet of enclosed space and 70,686 square feet of floor area.

Semisphere buildings are being considered for many functions, including manufacturing and its associated processes, warehousing, equipment display, aircraft hangars, commercial and civic entertainment, religious gatherings and indoor athletic facilities. Completely erected, the semisphere building will sell at less than $4 per square foot of space afforded.

Putting the semisphere together is a case of building from the top down, but the building work is all done on the ground. A necessary preliminary is the installation of a steel center pole 94 feet high for use in building erection. This pole may be left up when the building is finished, although it is not necessary for support of the completed building.

The dome begins to grow when a sliding steel collar — called the peak structure—is raised gradually up the center pole and 15 successive rings of



aluminum sheets are bolted on. Jackstands steady the bottom edge of the partially-constructed dome during the attaching of each new ring of sheets. When the last ring is bolted on, the peak structure is 85 feet up the center pole. The lower edge of the completed building is then lowered and firmly secured to a foundation ring of concrete poured in advance to accommodate the building's circumference.

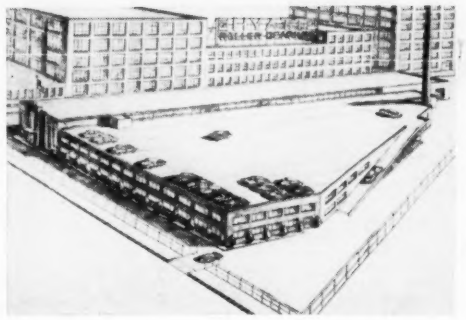
The clear, unobstructed interior makes the building adaptable to many purposes, especially as an auditorium for public gatherings. Finishing details and utilities, such as interior surface treatment, lighting, heating, ventilation, air conditioning, acoustics and floor material — all of these can be whatever the building's function calls for. And within certain generous structural limitations, the size and number of entrances and exits can be varied to suit the end use requirements.

Ventilation of the semisphere building is assured by a 225-square-foot opening through the peak around the center pole. Sheltering of this opening and control of the volume of air passing through it is accomplished by a cone-shaped aluminum hood at the peak of the dome.

planning idea

Plant addition provides roof-top parking

In order to cope with the problem of providing sufficient parking space, Hyatt Bearings Division of General Motors Corporation's plant in Harrison, New Jersey, is building a two-story addition, which will provide roof-top parking space for additional automobiles. *(next page, please)*



During the winter months, the surface of ramps leading to and from the parking area will be kept free of ice and snow through radiant heat.

The plant addition, of brick and steel construction, has been especially designed, from its foundation up to its roof, to carry the extra weight. It will add 68,000 square feet of manufacturing and office space.

planning idea — Translucent plastic helps create office partitions

The Maier Brewing Company in Los Angeles recently refurbished their offices for greater operating efficiency.

They decided to reconstitute an open area into partitioned sections. After checking on various materials, comparing initial cost, installation and maintenance, they decided on a combination wood and plastic panel partition.

Transparent, shatterproof, chemical glass structural sheeting, with good acoustical value, color and design variety and light transmission qualities, was chosen.

This plastic is also recommended for window and outdoor installations because of its excellent weathering qual-

ities. In addition, it is flame, high-heat and glare resistant.

For more information, Circle number 501 on the Reader Service Card.

planning idea — New buildings feature colored porcelain tiles

A new building trend using brilliantly colored porcelain tiles is now in evidence. Buildings may now be had in any color and any pattern.

The porcelain enamel products consist essentially of a metal base into the surface of which is fused inorganic "glass" resulting in a finish that is per-

manent, color-stable and smooth. The final product is resistant to damage by thermal shock and will withstand an unusual amount of mishandling without physical damage. It is also resistant to atmospheric acid and temperature changes.

It will not fade, tarnish, crack or peel. There is no repaint upkeep or other serious maintenance costs since cleanliness is accomplished by simple application of soap and water.

For more information, Circle number 500 on the Reader Service Card.

planning idea — Conveyor system does double duty materials handling

In order to move materials fast at General Electric's Edmore, Michigan, permanent magnet production plant, they make their materials handling system do double duty. *(next page, please)*

From the time sand is delivered to the foundry section of the plant, to help shape the molten metal into cast magnets, until the latter reaches the shipping room, mechanical handling aids take over. Usually, the work station itself is built in as an integral part of the conveyor system or a conveyor is utilized as a workbench so that work-loaded tote trays need never be lifted or removed while the work is being processed.

The shipping area is a good example of increased functional use—in addition to use for conveying, the conveyor acts as workbench and weighing station.

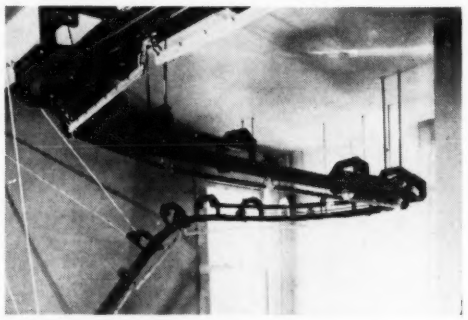
General Electric has found that production is increased at no substantial cost increase and feels that the savings in time merit installation of these mechanical aids.

planning idea — new products for work center application

Chainless overhead conveyor needs no lubricants

A new development on a chainless overhead conveyor completely removes the necessity of lubricating the system at any time. This innovation overcomes a major maintenance problem—i.e., the need of constantly checking to see that equipment with moving parts is adequately lubricated.

This greaseless factor makes the conveyor the perfect system for transporting



materials through furnaces or kilns where almost constant replenishing of grease is normal procedure.

For more information, Circle number 199 on the Reader Service Card.

Free booklet on factory lighting details function and cost

A free booklet on factory lighting shows how a newly developed lighting fixture attains an efficiency of 90% while maintaining an extremely low brightness. Suggested mounting arrangements and complete specifications are detailed.

Cost factors, operating and installation, are itemized and compared with other lighting systems.

For more information, Circle number 514 on the Reader Service Card.

The salesman's pitch

TAXES AND ECONOMIC PROSPERITY ARE IMPORTANT SELLING POINTS TO CONSIDER

by W. H. Feldmann
Vice President, Worthington Corp.

The "selling job ahead" obviously requires continuous, day-to-day, intelligent leadership and supervision all along the line. Specifically, we need to:

1. Develop aggressive, enthusiastic salesmen.

2. Determine business potentials by industry, area and customers. Tailor coverage to fit.

3. Teach the men to sell your improved product to replace obsolete equipment.

4. Tell your salesmen why continued economic prosperity is tied directly to individual productivity. The increase in productivity per worker is the direct result of the ever greater horsepower of mechanical energy under his control. Sell more horsepower per worker through your equipment to offset the continuing inflation in labor rates.

5. Those of us in the air conditioning business are setting substantially higher sales quotas for 1954. Why is this? Because a number of companies, over many years, have improved their products, reduced costs and have sold the benefits of and the desire for air conditioning. When 15% of the prime rentable office space in any city is air conditioned, the pressure on the landlords of the remaining areas to do likewise becomes very great. So the manufacturers of air conditioning equipment are not concerned about the possibility of dropping sales in 1954 and 1955. We are concerned about increased manufacturing capacity. It took a lot of selling to bring about this happy situation.

6. Take full advantage of the end of the Excess Profits Tax. In one of our plants, a proposed sprinkler system will save its cost in two years, before Federal income taxes. Under 1953 tax rates, this works out to be an eleven year payback after taxes. On January 1, 1954, the payback was reduced to approximately four years.

7. Take full advantage of whatever liberalization in depreciation allowances for income tax purposes will result next year. We know that faster amortization will, over a period of years, not reduce the total of taxes paid, but accelerated rates, even if only in the earlier years, will often favorably influence an investment because the owner wants to get much of the cost behind him as soon as possible. m/m

clippings

NEW LITERATURE AND PRODUCTS IN THE EDITOR'S MAIL

Electronic "salesman" produces fully automatic show

Production is under way of a sound slidefilm projector using long-playing records to give an uninterrupted, fully automatic 22-minute sales presentation or technical training lecture. The entire equipment—including amplifier, record player, 300 watt stripfilm projector, films, record and screen—fits into a portable container the size of a salesman's briefcase.

Pictures are changed by an automatic film advance. This mechanism is activated electronically by low frequency signals cut into the record, but inaudible to the human ear.

A pushbutton extension cord for electrical film advance, when projecting non-automatic sound slidefilm or silent filmstrip, is included. Thus, companies with

inventories of older-type films and records may efficiently use the new machine.

Additional flexibility is provided by an exclusive tone arm which plays both standard and micro-groove up to 16 inches without cartridge turnover or any other type of adjustment.

For more information, Circle number 498 on the Reader Service Card.

Plastic cashbox sorts and counts money

An ingenious cashbox keeps coins sorted and counted by means of metered slots holding the coins with the amount in dollars and cents being shown on the edges of the slots. A perpetual inventory of coin cash, kept sorted and counted as it comes in, is maintained.

Made of die-cut plastic, the box is practically unbreakable. The coin tray tilts up

on retarded click springs; the cover and coin tray are removable. There is ample room beneath the tray for paper money. Sponge rubber strips in the top hold coins securely in the slots so that the box may be carried in any position. The owner of a large chain store estimates that this box saves $2.64 per clerk per week by freeing clerks for more profitable work. It's a movable cash drawer, too, eliminating coin bags and envelopes and the work they involve.

For more information, Circle number 497 on the Reader Service Card.

Portable magnetic dictation machine reproduces with high fidelity

A portable magnetic dictating and transcribing machine, using a continuous belt to record, weighs only 12 pounds and measures only 5½" x 10 inches.

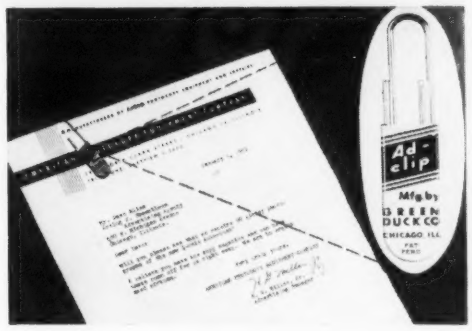
The belt reproduces with high fidel-

ity, can be used over and over again and mailed or filed easily.

For more information, Circle number 518 on the Reader Service Card.

Paper clips carry advertising messages

A unique advertising medium consists of a standard paper clip with a patented little metal "billboard" which carries colorful



advertising messages, slogans or logotypes. Any advertising message can be presented in a way that assures 100% readership. They offer an effective way of reaching businessmen right in their own offices. Extremely useful in direct mail campaigns, they can be used to add emphasis to a product or announce a special week. Exceptionally low in cost, they are available in striking color combinations.

For more information, Circle number 510 on the Reader Service Card.

Free booklet details operation of visible control boards

A new 24-page, illustrated booklet covers the ranges of applications for a visible control board. Over 100 photographs, sketches and diagrams are used to explain the operation of the system and to picture numerous new applications. A plan sheet and color chart come with the booklet.

Diagrams show how this visual control system is set up to meet individual needs in picturing operations in any step-by-step or period-by-period sequence. Typical applications are shown for such phases as sales, production, inventory, scheduling and loading.

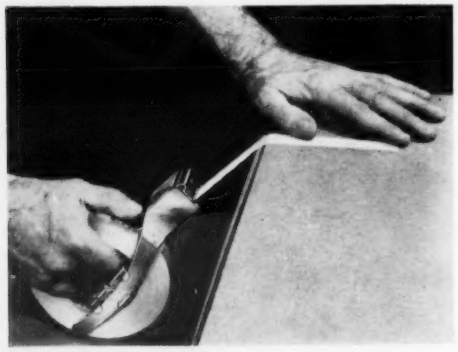
For a free copy of the booklet, Circle number 509 on the Reader Service Card.

Specially designed hand dispenser for pressure-sensitive tape

A new hand dispenser is designed for use with filament tape and other hard-to-cut pressure-sensitive tapes.

Main feature of the new dispenser is a fixed saw-tooth cutting edge that permits the tape to be cut with a simple twist. It is claimed that the new cutting edge will last three times longer than the trigger-operated razor used on earlier dispensers.

Smaller, stronger and more compact than before, it features a special ratchet mechan-



ism that permits the roll to move forward as the tape is used, facilitating handling.

For more information, Circle number 516 on the Reader Service Card.

Table-top collator for small offices

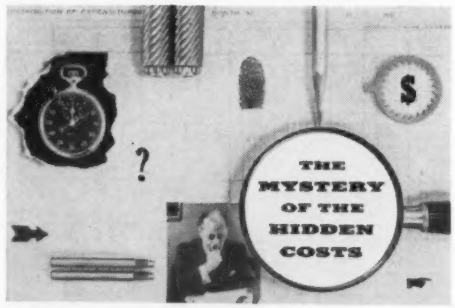
A fast-action, improved table-top collator incorporates many refinements previously available only in larger floor models. Pages to be collated are stacked into bins and rubber-tipped "fingers" push the top sheets of each stack into the operator's hand. The assembled set of papers is quickly jogged and drops into a gathering tray directly below the unit. The collating cycle is controlled by a hand lever which can be located on either the right or left side of

the unit for the operator's convenience.

For more information, Circle number 515 on the Reader Service Card.

New booklet describes how to reduce office traffic costs

A recently published booklet does a good job in explaining how improved traf-

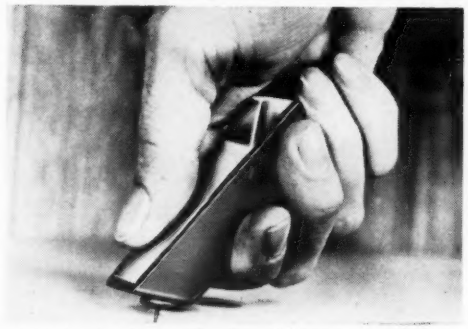


fic control can be achieved through the proper placement of pencil sharpeners in an office. In addition to reporting a group of case histories it provides a formula that any business can use to evaluate its own efficiency—or lack of it—in this respect.

For a free copy of this booklet, Circle number 496 on the Reader Service Card.

Thumb tack tool tacks, pulls and stores

A unique, three-way thumb tack tool has one end magnetized to enable the



user to insert tacks in different positions. It has a small claw that extracts thumb tacks and prevents them from falling, by sliding them into the handy container. The gadget costs only 49 cents.

For more information, Circle number 505 on the Reader Service Card.

ADVERTISING INDEX

ADVERTISING INDEX *continued*

Acceptance under Section 34:64 P.L.&R. Authorized

Management methods

Published by

MANAGEMENT MAGAZINES, INC.
141 E. 44th St., New York 17, N. Y.

TO

DEAN R A STEVENSON
UNIV OF MICH SCH OF
ADMINISTRATION -BUS
ANN ARBOR MICH

POSTMASTER: If undeliverable for any reason please notify us at above address on Form 3547 postage for which is guaranteed.